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ABSTRACT

Prepared for State University of New York/Buffalo researchers participating in a state-sponsored educational financing project, this background paper focuses on the vocational education "program effects" of changing financial aid formulas and/or the rationale for organizing school districts and regional services. It scrutinizes the role of Boards of Cooperative Educational Services and school district organizations which prepare students for specific occupations through traditional vocational education. The first of nine sections examines occupational education in New York and the transition from vocational to career education. Section 2 traces vocational education's historical development (1917 to the present) and the emergence of career education. The third section reviews the New York State Regent's (1971, Position Paper #11) citing of needs for educational system reorganization, developmental continuum adoption, and design flexibility. Section 4 discusses problems in traditional vocational education. Section 5 interprets and evaluates the influences, goals, and activities of New York's occupational education plan. The sixth section examines implementation of three occupational education projects, and section 7 identifies issues involved in implementing occupational/career education programs. Section 8 discusses strategies of individualization versus standardized program expansion. The final section presents an occupational education planning paradigm. (CSS)

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OCCASIONAL PAPER #28

OCCUPATIONAL EDUCATION IN NEW YORK STATE: THE TRANSITION FROM VOCATIONAL TO CAREER EDUCATION

by

EUGENE A. NELSON

CE 019 745

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SECTION 842 STAFF:

Orlando F. Furno, Director
James M. Gaughan
Robert Hennigan

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Table of Contents

	Preface	viii
I.	Occupational Education; A Transition Concept	1
	A. A Problem Centered Approach	3
II.	Historical Development of Vocational Education	7
	A. The Period from 1917 to 1963	8
	B. From 1963 to 1968	10
	C. From 1968 to the Present	11
	D. The Emergence of Career or Occupational Education	13
III.	The New York State Regent's Position Paper #11 on Occupational Education	17
	A. The Need to Reorganize the Educational System	17
	B. The Adoption of a Developmental Continuum	18
	C. The Need for Flexibility in Design	19
IV.	Problems in Traditional Vocational Education	22
	A. Contrasting Concerns of Vocational and Occupational Education	27
	Separatism	27
	B. Definition of Specific Problems to be Addressed	29
	C. The Effectiveness of Traditional Vocational Education	30
	Student Intent - The Key Variable	34
	Vocational Development Determines Success	35
	Some Qualifications	37
	D. The Adequacy of Vocational Programs	41

V. The New York State Plan for Occupational Education 45

A. Contrasting Influences in the New York State Plan 46

Influence of Regent's Position Paper #11 46

Influence of the Traditional Manpower Paradigm 47

The Influence of the VEA Focus on "People" 48

B. Analysis of Goals and Activities 51

C. Goals, Activities and Funding at the Elementary and Early Secondary Level 54

D. Goals at the Secondary Level 56

E. Multi-Level Goals and Activities 59

F. Recommendations of the New York State Advisory Council 64

G. Evaluation of the New York State Plan 67

VI. Occupational Education - The Status of a "Paper Program" 69

A. The Comprehensive Career Education Model - (CCEM) 71

B. The Experienced Based Model 73

C. Regional Planning and Coordination 77

VII. Issues and Problems in Occupational Education 79

A. An Overview of Issues 79

B. Major Issues in Growth and Development 83

The End-Goals Question 85

Stages and the Developmental Continuum 87

Aspects of Personal Growth 94

C. Need for Affective and Functional Education 97

D. Problems in Curriculum and Administration 101

Leadership vs. Regulation in SED 102

Administrative Constraints on Curriculum 104

E. Administrative Philosophy versus Educational Philosophy 108

Subtle Manifestations of Standardization 111

VIII. The Strategy of Individualization versus Standardized Program Expansion 113

A. The Inadequacy of the Standardized Program Strategy 115

Program Expansion and the Constraints of Population Density 119

Matching Vocational Programs and Job Opportunity 123

B. System Design Using an Individualized Strategy 125

Analyzing and Redefining the Role of the Teacher 129

Conceptualizing Functions of an Individualized System 132

The Student Progress and Needs Assessment System 139

The Instructional Resource Management System 141

C. Limits on Individualization 144

IX. Establishing A Planning Paradigm for Occupational Education 149

A. Planning: The Translation of Ideals into Practice 152

Balancing the Ideal and the Practical 154

B. Outlining a Planning Paradigm 156

Input Considerations 156

Process Considerations 159

Reality Processes 159

Traditional Schooling 161

The Individualized Strategy 162

C. Policy and Administrative Implications of Instructional Management 163

D. A Rationale for SED Organization 166

Needs Assessment and Student Evaluation 168

Individualized Planning 169

Resource Development and Management 169

E. Goals and Output Considerations 171

F. Community Based Education 177

The Community is the School 179

G. The Role of Vocational Education 183

References 184

List of Tables

Table 1: Public Secondary Occupational Education Enrollments in BOCES, Big Five Cities, and Local Educational Agencies, for School Year 1975-76 26

Table 2: Estimates of Total Funds Needed for Vocational Education and Annual Allocation Plan 52

Table 3: Analysis of Goals and Funding at Secondary Level 57

Table 4: Analysis of Multilevel Goals, Activities and Funding 60

List of Illustrations

Figure 1:	Input-Output View of High School Students in Academic and Vocational Programs	23
Figure 2:	CCEM Curricular Program	72a
Figure 3:	CCEM Elements of Career Education	72b
Figure 4:	CCEM Career Information Model	72c
Figure 5:	Infusion of Career Development Concepts into Current Curriculum	72d
Figure 6:	Contrasting Major Issues in Occupational Education	80
Figure 7:	System Capacity Using a Strategy of Standardized Program Expansion	116
Figure 8:	The Degree to Which Young People Probably Feel Motivated to Do Good Work in School	127
Figure 9:	An Individualized System Based on the Development Framework	133
Figure 10:	A Planning Paradigm: An Outline of Some Major Issues	157
Figure 11:	A SED Administrative Structure Correlated to Functions of Individualized Instruction	167

Preface

This background paper was prepared for an "in-house" audience, i.e., researchers at the State University of New York at Buffalo participating in a New York State sponsored project on the financing of education. One of the tasks of the research group was to examine the rationale for delivery of educational services in New York State, particularly as it affected the role and functions of Boards of Cooperative Educational Services (BOCES) and school district organization. During that investigation, questions arose regarding the "program impact" of changing financial aid formulas and/or changing the organizational relationships between the SED, school districts, and regional organizations. Since vocational education programs were an important element in the many services which BOCES provided to local school districts, a separate analysis on vocational education was needed to provide a perspective for the research staff.

This paper followed an earlier analysis of the purpose and intent of BOCES and other forms of regional organizations. The supposition had been made that there was something inherent in the nature and purpose of regional units and their relationship to state departments of education and school districts which would clarify the tasks which face the planner who seeks to optimize financial support arrangements. In that approach, the focus was on the organizational policy and structure of education, and it was found that such structures did affect the nature of the programs being offered.

Indeed, the impact of administrative policy and structures on program availability is as powerful as any that could be derived by changing formulas

for the distribution of financial aid. However, as will be shown in this paper, it is equally true that the purpose and intent of BOCES and other educational organizations is derived from the nature of the educational services it seeks to deliver, and the problems faced by the communities and students which education seeks to serve. When the problems themselves change, or even the conceptualization of the problem changes, the goals and structure of the educational system must change with them. Nowhere does this become more apparent than in consideration of "occupational education".

Occupational Education in New York State:

The Transition From Vocational to Career Education.

I. Occupational Education: A Transitional Concept

Significant changes are emerging in the problem structure which governs the preparation of students for the world of work. In New York State, the term "occupational education" was intended as a global concept which would address the central problem of preparing students for their economic roles in life, and particularly the problem of finding a meaningful working role. It encompasses "vocational education", with its traditional emphasis on training for particular jobs or occupations, but addresses problems which traditional vocational education had excluded from its list of responsibilities.

The Regents coined the term "occupational education" in 1971 with the publication of Position Paper #11, "Occupational Education". Shortly afterwards, Sidney Marland, then the U.S. Commissioner of Education, coined the term "Career Education". Conceptually, career education was meant to address the same global problems addressed by occupational education, and from a theoretical point of view, the terms could have been treated synonymously. However, it is a peculiar quirk of educational jargon, that nothing turns out to be simple and straightforward. As career education became a national concern, it would have been a simple matter to change the title of Position Paper #11 to "Career Education." This was not done, and in retrospect, perhaps it is fortunate; for as career education has been translated from concept to practice, narrow interpretations have

arisen which fail to address the broader concepts which were originally intended by both Marland and the Regents.

The Regents had intended the one term, "occupational education" to be a unifying concept which would address the central concern of helping the students to assess his abilities, find a participative role in society, and make a meaningful contribution that was at once useful to society and fulfilling for the individual. It would have included vocational education as one of its elements. At the national level, however, vocational and career education became separated into separate programs: with separate legislation; separate departments in USOE; and separate financial arrangements. This has affected programing in New York State as well.

Today, the three terms, "occupational education," "vocational education," and "career education" take on different meanings according to the context in which they are used. When occupational education is broadly defined, it becomes equivalent to a broad definition of career education. When occupational education is narrowly defined, it is treated as the equivalent of vocational education. When career education is narrowly defined, it means a program directed at traditional academic education, designed to show the relevance of academic disciplines to the world of work.

This confusion of concepts had had an impact on the organizational goals and concerns of the SED as well. What the Regents intended as a unified program which would integrate traditional concerns of vocational education for job training, with a new emphasis in academic education for life relevance, has become two separate programs of vocational and

career education. What was formerly a bureau for vocational education is now a bureau for "Occupational Education." But in practice, the broader issues of occupational education receive only lip service from this segment of the organization. With creation of a separate element for career education, vocational educators in the Bureau of Occupational Education tend to retain the traditional vocational focus and transfer broader concerns to the new career education programs.

Today, in New York State, as elsewhere, the structure and practice of vocational and career education tends to be narrowly defined, and conflicts sharply with its broader envisioned goals. Vocational educators remain confined within the traditional organization and structure of vocational education delivery systems. Career educators are living with the traditional structure of academic education.

A Problem Centered Approach

This analysis was intended to focus on the "program effects" of changing financial aid formulas and/or the rationale for organizing school districts and regional service agencies. The programs of concern were the vocational programs now offered in BOCES and local school districts, which are designed to prepare students for specific occupations and are operated within the paradigm of traditional vocational education. This analysis attempts to include, but go beyond this traditional framework, and examine vocational education in the context of occupational and career education as broadly defined. What justified this attempt? One justification is found in the Regents Position Paper #11 which established the

policy for New York State that vocational education will be considered as one part of a broader occupational education scheme. But if this were the only justification, the entire analysis would be dependent upon shifts in the definition of policy and concepts, and the ability to interpret what the terms of existing policy "mean". The state planner or policy maker could invalidate the analysis by claiming that a shift in policy or semantics has taken place, and therefore, the arguments presented are no longer valid. A firmer foundation for analysis is therefore needed. It can be found on the assumption that the purpose and intent of any educational organization or program is ultimately derived from the problems faced by the students and communities which the educational system seeks to serve.

Indeed, it is precisely this framework of a changing problem structure which emerges from an examination of vocational education as an early attempt to meet the needs of people preparing for the world of work. Section II traces the historical development of vocational education and the emergence of career education. Vocational education has long been somewhat unique in the total educational system, because its relationship to the general economic welfare of the community and nation has long been recognized, and because the need for coordinating its programs with the world of work has become an accepted parts of its rationale.

Since vocational education became established in the list of educational services, it has shared in the general criticism which education as a whole has received in recent decades. This criticism has led to a searching reexamination of the goals and purposes of vocational education.

But it has also led to a reexamination of academic education, and the claim that the entire educational system must be restructured around the tasks which each individual faces in finding a meaningful role in society.

Section III examines how the Regents of the State of New York interpreted the emerging problem structure in Position Paper #11. Section IV then turns to the question of whether it is possible for vocational education to maintain a separate identity defined by its traditional functions, when it is surrounded by increased recognition of the broader problems in the successful transition from school to work.

Section V attempts to interpret the efforts of the Bureau of Occupational Education in New York State in moving toward the broader concerns of the Regents as formulated in Position Paper #11. The section is limited to an interpretation of the New York State Plan for Occupational Education for Fiscal Year 1976-1977. It should be noted here, and later, that analysis of a single planning document of the Bureau provides a rather limited perspective of its overall efforts. On the other hand, if there is any single source from which the relationship of vocational education to occupational education (broadly defined) can be evaluated, it makes sense that it should be in the document which carries the title "Plan for Occupational Education."

The picture which sections II and V presents is a discouraging one. Progress in addressing the broader concerns of occupational education has been slow indeed, and there is evidence that a major obstacle to further progress lies in the conflicting philosophies which govern vocational and academic education as a whole. Consequently, Section VI examines "Occupational Education - The Status of a Paper Program." Are the broader

concerns of occupational and career education merely "idealized" concepts which will never be realized? An attempt is made to review some projects in career education which point to changes which might emerge in later years. The essential message is that the conceptual framework for programs to implement broad career concerns is still emerging, but progress is being made.

Section VII attempts to identify the critical perspective and issues involved in implementing a broadly defined occupational or career education program. What does it mean to focus on the growth and development of the individual? What kinds of changes does it imply for the structure of administration and the conduct of education? A conception of an individualized system is presented, based on a developmental perspective.

Section IX summarizes the paper in terms of alternative paradigms which can be used in planning future efforts. Sections II, IV and V are summarized in terms of the "traditional" planning paradigm which seems to govern existing systems. Section VI and VII are summarized as an "individualized" paradigm which might emerge from a developmental view of occupational and career education.

II. The Historical Development of Vocational and Career Education

How has the confusion come about between the terms "vocational", "occupational," and "career", education? What shifts have taken place in the philosophy and goals of vocational education at the national and state level? How are they defined today? What goals are being set for the future? The following analysis seeks to trace the emergence of vocational education in the early part or this century to the national concern for career education in this decade. In considering the emerging national emphasis on broad career concerns in education, it is important to keep in mind that the policy statements envision a future yet to be realized. Indeed, it may never be realized. Despite this, it seems safe to assert that movements are already underway which promise to modify, if not entirely change the assumptions upon which traditional academic and vocational education have been based. Indeed, they may be so far reaching that instead of asking what "program effects" result from changing financial aid formulas and administrative structures, we might be asking how changes in the problem structure governing programs will change our views on administrative structures and problems of financial aid.

A simplified view of the history of vocational education can be divided into three periods: from the Smith Hughes Act of 1917 to the Vocational Education Act of 1963 which shifted the perspective from occupational categories to people needs; from 1963 to 1968, when the first major evaluation of progress under the new concept occurred; and from 1968 to the present as the need to mesh the problems of vocational training and vocational development posed a problem which is yet to be resolved.

A. The 1917 to 1963 Period

The period from 1917 to 1963 is significant because the existing structure and philosophy of vocational education is predominately based on the concepts which emerged during this era. Implementation of new policy must grapple with the obstacles which are presented by the old. Vocational education became entrenched in the American school system with the passage of the Smith-Hughes act of 1917. As Leighbody (1972), puts it:

> Vocational Education in America was born into a world where nearly half the people lived and worked on farms. Most of the rest were employed in industry. The cities existed, and some of them were large, but the great rural-urban migration had yet to come. Industrialization had arrived, but a great deal of the heavy manual labor was still performed by human hands and backs (PP. 166-167).

Consequently, when vocational education became part of the public school system with passage of the Smith Hughes act, it is no surprise that only three fields of vocational endeavor were recognized: agricultural, trade and industrial, and home economics. That is, people would work in trade or factories, on the farm, or in home related occupations, of which raising a family was the dominant one.

Between 1917 and 1963, the occupational structure of the United States changed, and vocational education legislation was passed to keep pace with it. The George-Dean Act (1936) added distributive education to what would be called the "vocational education umbrella." In 1956, Title II was added to the George-Barden Act to provide for training in the health occupations field; and in the same year, P.L. 84-1027 was passed to provide for training in fisheries occupations.

The trend that emerged was that of categorical funding for specific occupational fields and the dominant principle was to meet the manpower needs of the nation (Evans, 1971). Yet, this philosophy had two drawbacks: first, there are limits to the ability of programs structured around occupational categories to keep pace with the rapidly changing structure of the labor market. Second, such specific structuring always limits the number of people-needs that can be addressed. As Leighbody (1972) explains:

> ...If vocational education is to be organized, administered and funded in terms of specific occupational categories, with new occupations added one by one by legislative amendment, the number of occupations, and therefore the number of people served must always remain small unless the whole program is to become a legal and administrative monstrosity. The seven service areas authorized under the Smith-Hughes, George-Barden and other legislation represented the practical limit to which this concept could be pushed and it is obvious that if occupational education is to expand to reach the multitude of unmet needs, some other form of organization is necessary (p. 171).

In this passage, two foci for occupational education are apparent. One is the occupational or manpower needs of the nation, the other is the needs of people. While the earliest legislation emphasized occupational categories, there has always been some concern with both. For example, the 1917 legislators had available and took into account such studies as a 1906 survey of conditions in Massachusetts:

> ...about 25,000 children in Massachusetts between 14 and 16 were either at work or were idle. Nearly half of them had not gone beyond the 7th grade and only about one-sixth ever graduated from elementary school.
>
> Regardless of character, perseverance and thrift, most

> were engaged in "low grade" industries with little hope of advancement.
>
> Why didn't they stay in school longer? Because the schools, especially the higher grades, did not provide youngsters of 15 and 16 with "continued schooling of a practical character." (Author unknown)

Despite this dual concern with the needs of people and the manpower needs of the nation, it was the latter concern which formed the practical philosophy and criteria for vocational education. Leighbody (1972) notes:

> Without question, the fundamental goal of vocational education, which is most widely accepted by its leaders, is to prepare people to enter into and remain in gainful employment...
>
> Vocational educators are nearly unanimous in accepting job placement as a responsibility, and the placement of graduates in the occupations for which they were trained has always been considered the most tangible measure of the success of the vocational educational process. As recently as 1962 the report of the Panel of Consultants on Vocational Education stated, "The acid test of vocational education is the extent to which its graduates are employed in the occupations for which they are trained. (p. 15)

The basic position of vocational educators was derived from the period 1917 to 1963. Despite changes in philosophy, it lives on to the present. The question is, does it still constitute a legitimate goal for vocational education? Or at least, does it tell the whole story?

B. <u>The 1963 to 1968 Period</u>

The Vocational Education Act of 1963 changed the basic approach to vocational education. First, it eliminated categorical funding, and allowed a wide variety of programs to be called vocational. An expansion of vocational training programs followed, but the immediate effect was a statistical one. Existing programs in the high school which served a

vocational purpose could now qualify as vocational under the new legislation. "Enrollment" figures in vocational education immediately increased. The primary factor was the existing offerings in business education which formerly could not be counted. Only one major criterion regarding the definition of vocational education was continued, i.e., vocational training was not authorized for any occupation which was considered professional, or which required a baccalaureate or higher degree.

More importantly, the VEA of 1963 shifted the focus from occupational categories to categories of people. The intent of Congress was to provide a program of vocational training:

> ...so that persons of all ages in all communities of the State - those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market, but need to upgrade their skills or learn new ones, and those with special educational handicaps - will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training (PL 88-210, Part A, Sec. 1).

The Act of 1963 also introduced the requirement for periodic evaluation of progress, and it was this requirement which leads to marking off the year 1968 as a second turning point in vocational education.

C. 1968 to Present

In compliance with the 1963 Act, President Johnson appointed an Advisory Council on Vocational Education to report on progress. Their report, issued in 1968, found that progress had not been remarkable: particularly in terms of what had been anticipated by shifting the focus of vocational education from occupational categories to people. The

Council (1968) noted:

> Vocational education faces a unique challenge in the years ahead - a challenge rooted in the social and economic welfare of people. In the contemporary social scene, with its large city problems, the ghettos, school dropouts, and a variety of disadvantaged groups, the need for vocational education stands out clearly. Never before in its history has vocational education had an opportunity to reach out into the total population and serve the groups that society has passed by. (p. v)

But the Council was equally clear, that groups existed that school had passed by, and for the first time, the relationship between vocational and general academic education was explicitly recognized in formal policy.

> Changes in the way we live and how we make our living have caused vocational education to become central to the total process of education. The purpose of vocational education have become so enmeshed with the purposes of education in general that we are not justified in thinking of vocational education as a separate and distinct entity set aside from education.
>
> The total educational process is inexorably tied to the work required by society. Both the nature of society and the characteristics of work have changed. In recent years, these changes have been rapid and have magnified the interdependency of work and education. There is no place in the world of work either for the uneducated person or for the educated person who has not learned to work. (Council, 1968, p. xix)

Yet, the dual relationship was difficult to define. Vocational education was still associated with job training; yet it was only one stage on a broader vocational development continuum. The Council stated:

> The skills and knowledge required of a person to perform the tasks of an occupation are of primary concern in vocational education...This had led us to think of vocational education in terms of the name of a class - carpentry, stenography, for example. But, it is not the name of the subject that makes it vocational - it is the intent of the student and the arrangement of the instructional content...

> Vocational education, although focused upon the occupational tasks of the world of work, cannot be easily separated from the total educational process. New relationships in the vocational continuum must be developed in order to integrate effectively the unique contribution that other areas of education make toward vocational competence. (p. xx)

> Vocational education is involved in this renaissance with an emphasis that changes gradually from interest and concern to direct participation - student age and development are the controlling factors. Somewhere in the student's early educational career an interest in vocation must develop. This interest must find expression in the elementary school and the junior high school. At an appropriate time - dictated by student interest more than by age and grade level - the student must begin occupational exploration... (p. xxii)

D. The Emergence of Career Education

In 1971, Sidney Marland, then Commissioner of Education, launched what came to be known as "Career Education." He prudently declined any precise definition. Rather, he presented the problem of vocational or career development to educators and businessmen and urged them to find an answer. Obviously, there was nothing new about career education except the decision to do something about it. Individual development and vocational competence had been part of the educational scene since the Commission on Secondary Education issued their Cardinal principles. They were implicit in the Smith Hughes Act and all subsequent legislation. Yet, it does seem fair to say, that seldom had the nature of the problem been better recognized than in the 1968 report of the Advisory Council on Vocational Education.

The distinction being made is between vocational development and vocational training. Without going into detail, one can say that the problem is to integrate into the educational framework, that series of tasks which are involved in vocational development. This process has

been described by Super (1951) as one in which the individual develops his self image, and relates that image to the world of work. It involves self knowledge as well as knowledge of occupational alternatives. It involves development of vocational values as well as specific job skills. The difficulty lies in lack of knowledge as to when such tasks are most appropriately handled in the personal development of the student.

The "solution" which has emerged from this controversy has been to distinguish between career education and vocational education; the former being a responsibility of all educators, and the latter a responsibility of vocational educators. In practice, however, career education, which was to be a responsibility of all educators, has become the responsibility of none. It was obvious that career education was a cradle-to-grave concept, and within public schools, at least a K-12 concept. This required the full acceptance of academic educators, for the notion was that career education must be "infused" into all current curriculum. Unfortunately, academic educators too often looked upon career education as thinly disguised vocational education; and rejected it as incompatible with the academic tradition. It seemed necessary to affirm the message to education in general that career education and vocational development was not vocational education. The National Advisory Council on Vocational Education in its 8th report (September, 1974) recommended a national policy to the effect:

> That policy makers and legislators recognize that career education and vocational education are not synonymous. The curriculum development being done in the name of career education, which is largely concerned with orientation into the work ethic at the elementary and secondary levels for students not in vocational programs, does not meet the needs of vocational education curriculum, which deals with teaching specific occupational skills. (p. 6-7)

This type of recommendation may do more harm than good. It is undeniable, that given the present structure of the labor market, training in specific job competencies must be a part of the total vocational development process. But is is not necessarily true that the development of specific job competencies can be separated from the total developmental process and become a valid foundation for that segment of the total education system which is called vocational education. Particularly in the high school years, the processes of vocational development are still going on. Training for specific job competencies assumes that the student has reached the stage of occupational choice and commitment. Because a majority of students have not reached this stage of mature choice and commitment, many educators have claimed that vocational education should not be offered at the high school level.

What is often overlooked by both academic and vocational educators is that the type of learning experiences offered in vocational programs fills a gap in the development of the individual which results from the traditional academic setting. The practical, hands-on experience, of doing tasks involved in the maintenance of society might indeed prepare students for specific jobs. But, it also fills out processes in the general growth of the individual. The types of learning experiences that go on in vocational education then, are worthwhile because they are part of the total education of the individual, and not only because they lead to specific job competencies.

Yet, the traditional philosophy and purpose of vocational education has tended to emphasize the job competency portion of its function. Section IV examines the problems which emerge for vocational education when

it fails to incorporate the general vocational development of the individual into its rationale, and separates itself from the rest of the educational system. It is in this context that the recommendation of the National Advisory Council on Vocational Education may be harmful. It continues the separatism between vocational and academic education.

Such separatism and division of responsibilities between segments of education may be useful for administrative purposes and for such matters as teacher certification. But it implies that the growth and development patterns of the individual can be divided up as well. Perhaps it is possible that at some point in individual development, the interests of the student and vocational education will coincide so as to optimize the benefits of training for a group of specific job competencies. At that point, and only at that point, can a traditionally conceived system of vocational education operate with any hope of success.

Until that point is reached, (and except for a minority it is unlikely to be reached before the later high school years), both academic and vocational educators are likely to improve their effectiveness by sharing a broader perspective of individual growth and development. It is precisely this viewpoint which governed the formulation of Position Paper #11 by the Regents of the State of New York. In contrast to the separatism implied by the foregoing recommendation of the National Advisory Council for Vocational Education, it called for a reorganization of education around a unified view of student growth and development.

III. Occupational Education in New York State

In New York State, the relationship between traditional vocational education and the broader problems of vocational development had long been recognized. In May 1971, before Sidney Marland issued his national challenge of career education, the Regents issued its Position Paper #11, Occupational Education. It becomes obvious that the national term career education and the term occupational education used in New York State, were meant to address the same broad set of problems.

A. The Need to Reorganize the Educational System

In keeping with the philosophy of vocational development, the Regent's stated:

> An occupational education system capable of serving all students will need to be broadly conceived as part of a redesigned total educational system which has as one of its major purposes preparation for earning a living. (p. 6)
>
> Occupational education begins in the earliest grades and extends through all instructional levels, serving all people, regardless of age. (p. 7)

The Regents could not escape the pressures of tradition, and while the bulk of Position Paper #11 outlines a broad program of vocational development, there is nonetheless, occasional references to earlier definitions of vocational education.

> For programming purposes, we define occupational education as that part of the educational process which prepares people for employment in occupations requiring less than the baccalaureate degree. However, occupational education in its broadest sense should be seen as an aspect of the total educational process. While it can be distinguished from other components of the educational process by its emphasis on developing job skills, occupational education functions as part of the total process in developing the many characteristics needed for personal, social, and occupational success. (p. 6)

The crucial issue is that the goals outlined in Position Paper #11, will call for a "redesigned total educational system," thus recognizing that the current structure of occupational programs and the policy on governance and BOCES relationships perpetuate the characteristics of an older philosophy.

B. The Adoption of A Developmental Continuum

A necessary element in resolving the problem will be a clear cut theory of vocational development and practical programs for meeting the objectives which such a theory implies. Such theories and programs are only gradually taking shape. The perspective is that of a developmental continuum:

> beginning in early childhood and extending through all instructional levels, including adult and continuing education. Components of this continuum will be designed to insure development of student characteristics at approximate key ages; for example:
>
> . By age 9, the student understands the concept of work, appreciates the value of work and the worker, and is familiar with a wide variety of kinds and fields of work.
>
> . By age 12, the student is familiar with the broad families of occupations, is aware of the prerequisites for employment in the various kinds and fields of work, and understands the ways of progressing from one occupational level to another. He is developing awareness of his own abilities, interests, and aptitudes in relation to various occupations.
>
> . By age 15, the student is able to assess his own potential and to participate in making informed decisions regarding his immediate educational and occupational goals. His options include access to occupational programs which prepare him for immediate employment upon graduation, for continued occupational education at the post-secondary level, or for exit to the labor market prior to graduation.
> (Regents, 1971, p. 9)

The Regents also define objectives for ages 18 and 21.

Several observations can be made regarding the Regent's view of the continuum. First, the focus on "key ages" assumes a chronological relationship between the age of the student and a stage of vocational development. It is unlikely that development proceeds at such a uniform rate. Second, our knowledge of the vocational development process is inadequate to state just what precise capabilities are appropriate for any given stage. Most goals of vocational development represent our best "reasoned" judgment. Third, the existing structure of education does not accommodate such goals by design and cannot in terms of flexibility.

C. The Need for Flexibility in Design

The question of flexibility is perhaps the most crucial element in implementation.

> Since maturing students must have the right to modify educational and occupational decisions, both the occupational education system and the larger educational system of which it is a part must be sufficiently open and flexible to allow changes in direction with a minimum of frustration and penalty. The system must facilitate movement across occupational curriculums, and movement in both directions between occupational and non-occupational curriculums. (Regents, 1971, p. 11)

Obviously, one factor in developing such flexibility will be the structure of vocational offerings in the home district and BOCES, and the policies which define the relationships between the two agencies. To say that BOCES will provide vocational programs which the district cannot offer itself, assumes that we know the relationship between vocational (job) training and the total continuum of vocational development. It also assumes that the educational objectives implied by vocational training and

vocational development have been identified and neatly divided between the district and the BOCES. Such is not the case. Indeed, to the degree that these issues are being addressed at all, they are being addressed by both academic and vocational educators on a learn-as-you-go basis.

The Erie County BOCES, for example, has instituted multi-occupational and occupational exploration programs which are clearly aimed at vocational development tasks rather than job training. In doing this, is the BOCES usurping functions which are the responsibility of the school district under career education? Is BOCES redefining the scope and rationale of vocational education to include certain tasks of vocational development? To answer such questions, however, one must keep in mind the narrow and broad connotations of the term "occupational education" as it is used in New York State. The programs offered at Area Occupational Centers are predominately vocational programs as traditionally defined. If one adopts the separatist viewpoint between vocational and academic education, the problems become complex indeed. But, if one adopts the unifying perspective of the vocational growth and development of the individual, the division of responsibility between BOCES and local school districts can be dictated more by the unique conditions governing the local community rather than the policy formulations of governance and BOCES-district relations.

Yet to be explored, is the immense potential of district high schools for providing broad career and narrow vocational education experiences using existing resources. It was previously argued that vocational education programs must address broader problems of vocational development,

and this argument will be expanded in the next session. In the academic high school, career education emphasizes the relevance of academic subjects to the vocational objectives of the student. Now it is argued that many of the existing resources in academic high schools can be used for the development of specific vocational competencies. Why is a student required to travel to an Area Occupational Center in order to engage in occupational exploration, or to learn specific vocational competencies such as using a wook working lathe, food preparation, commerical art, or auto mechanics? The same equipment, instructional competence and facilities often exist in both the academic high school and the area vocational center. What justifies calling a similar experience vocational if it takes place in an Area Vocational Center, but academic if it takes place in the Industrial Arts or Home Economics department of the academic high school?

As the Advisory Council on Vocational Education pointed out "...it is not the name of the subject that makes it vocational - it is the intent of the student and the arrangement of the instructional content". It is clear that the current structure of education is dominated by the names of its subjects and programs, and the separation between things academic and vocational. It is in this context that the demand of the Regents for greater flexibility becomes critical in formulating goals, and the criterion by which educational and cost effectiveness can be evaluated. Sections VII and VIII address the problem of flexibility in terms of the existing strategy of expanding programs, versus the strategy of attaining flexibility through individualization. The next section deals with the goals and criteria of vocational education as a separate entity.

IV. Problems in Traditional Vocational Education

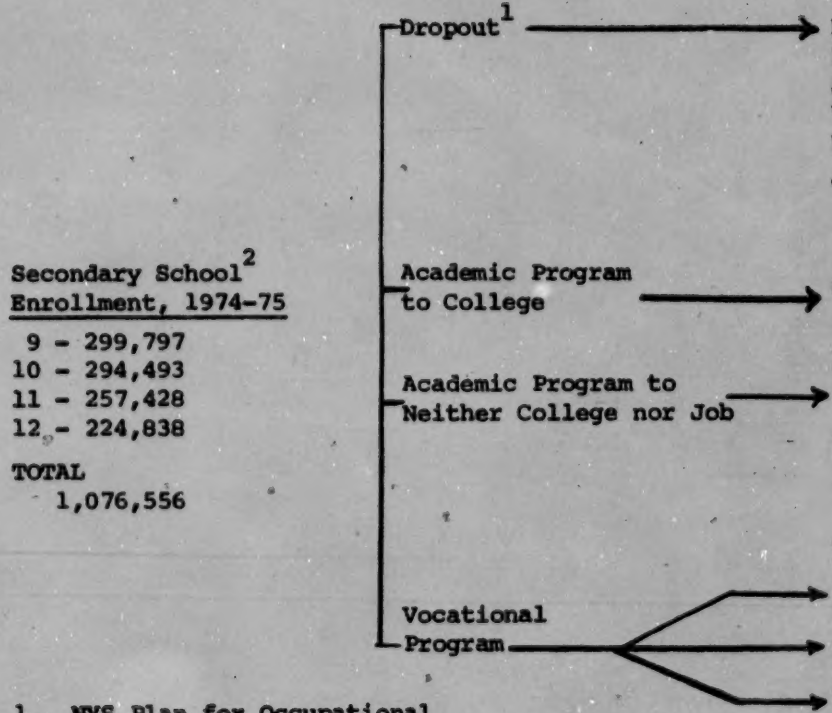
Perhaps the quickest way to conceptualize the problem facing vocational education is to arrange enrollment figures in a type of input-output analysis as in Figure I. While the data presented are not comprehensive, they do provide a valid perspective of the concerns of vocational versus career education. Secondary students in New York State are portrayed as choosing between four alternatives: 1) drop out of school, 2) pursue an academic program leading to college, 3) pursue a general academic program ending in neither college or job, or 4) pursue a vocational program which can lead to either college or job. The statistics presented in Figure 1 were extracted from the New York State Plan for Occupational Education, Fiscal Year 1977. It should be noted that the yearly data differ; however, enrollment patterns have not changed so significantly that one cannot treat the overall perspective as a valid one.

The dropout rate presented is confined to the Big 5 Cities and is probably not comparable throughout the state. However, it approaches 10% in the Big 5, and even a dropout rate of half for the rest of the state is significantly high.

To clarify the concern of career educationists, and the Regents, perhaps the first questions to ask are: "How many students are choosing vocational education programs?" or alternatively, "How well is the current system providing for the vocational needs of students in the state?" Two estimates are appropriate. The first is based on total enrollment of students in business and other vocational offerings in all academic high schools, vocational high school and BOCES occupational centers. In this

Figure 1

Input-Output View of High School Students in Academic and Vocational Programs



Dropouts in Grades 9-12
Big Five Cities 1973-74

	Enrollment	Dropout	%
Buffalo	17,626	1,815	10.3
Rochester	10,812	811	7.5
Syracuse	7,682	430	5.6
Yonkers	9,341	467	5.0
NYC	341,496	33,826	9.9
TOTAL	386,957	37,349	9.65

College - 4 year degree

Total enrollment less college equals total enrollment minus college bound, dropouts and vocational enrollments

	Total Vocational	Business & Office	DE[3]
LEA's			
High School not big city	178,762	147,783	10,393
Big Cities	146,105	80,368	4,707
BOCES Centers	53,839	4,030	849
TOTALS	378,706	232,181	15,950
Less Bus & DE	130,575		

1. NYS Plan for Occupational Education by 1977, p. 16, 1973-74
2. Ibid, p. 9, 1974-75
3. Ibid, p. 79, 1975-76

case, the total vocational enrollment is 378,706 students, which might be inflated because enrollment is computed by adding enrollment in specific courses. In the academic high school, a student who is enrolled in Fundamentals of Business and in typing would be counted twice. Using this total enrollment figure of 378,706 the percentage of students enrolled in vocational programs is 35.2% at the secondary level.

However, the bulk of these enrollments are in business, office, and distributive education, and for the most part, these programs are offered in the academic high school. If they are subtracted from total vocational enrollment, the figure shrinks to 130,575 students, or a total of 12.1%. The most accurate estimate for serious participation in vocational preparation lies somewhere between the 35.2 and the 12.1 figures. Realistically, it is probably not higher than 20% at the secondary level.

In the Big 5 Cities, the dominant delivery system for vocational education formerly was called a Class A program, as defined in the Smith-Hughes Act (1917). That is, special vocational high schools were established in which the offerings were to be 25% general academic, 25% academic which is trade-related, and 50% vocational in the sense of direct job skill training. In most cases, this pattern has been abandoned so that vocational high schools now offer 50% general academic and 50% vocational skill training. Thus, the student can meet both college entrance requirements and acquire skills needed for job entry.

Academic high schools in the Big 5 cities offer a limited range of vocational programs similar to those in local school districts. For the most part, these are confined to general business courses, secretarial training, and distributive education. While it is not intended to denigrate

the role of business education programs, it is nonetheless true that students in academic high schools who pursue such programs are not directly comparable in vocational interest and planning to those who pursue programs in vocational high schools and BOCES occupational centers. This comment on patterns in the large cities, also holds true for the relationship between local school districts and BOCES occupational centers. Table I shows a more detailed breakdown of total vocational education enrollment in the state.

TABLE 1

PUBLIC SECONDARY OCCUPATIONAL EDUCATION ENROLLMENTS IN BOCES, BIG FIVE CITIES, AND LOCAL EDUCATIONAL AGENCIES, FOR SCHOOL YEAR 1975-76

Occupational Education Program Area	ENROLLMENTS					
	BOCES		Big Five Cities		LEA'S	
	Total	Coop.	Total	Coop.	Total	Coop.
Agriculture Education	4,226	743	1,479	37	4,636	1,816
Distributive Education	849	154	4,707	521	10,394	2,696
Health Occupations Education	6,345	362	5,006	505	580	99
Home Economics Education (occupational)	2,331	340	2,209	85	1,154	199
Business and Office Education	4,030	272	80,368	5,465	147,783	5,392
Technical Education	774	24	6,730	78	1,221	17
Trade, Industrial and Service Education	35,284	2,853	45,606	1,817	12,994	949
TOTAL	53,839	4,748	146,105	8,508	178,762	11,168

Source: New York State Plan for Occupational Education, Fiscal Year 1977, p. 79.

A. Contrasting Concerns of Vocational and Occupational Education

The traditional concern of the vocational educator has been with programs that prepare students for specific jobs. It is skill training. The vocational educator's involvement typically begins after a student enrolls in a vocational program, and ends when the student is placed in a job. Career educators (or "occupational" educators in New York State) are concerned with the entire school population and the question of how well the total system is meeting the needs of students who face the problem of assuming economic and occupational roles in our society. Consequently, occupational education must be concerned with vocational students and academic students. Particular concern is shown for students enrolled in general academic programs who do not go to college and are not prepared for jobs.

Separatism

The problem is complicated by an attitude of separatism between the academic and vocational education community. It has its roots both in intellectual tradition and in the nature of the organizational structure which has evolved in education. From a separatist standpoint, the academic community has tended to treat the economic and occupational objectives of education as belonging to the vocational educators, and has consequently made only marginal efforts in this area. But the data supporting career education has established that if students are to meet their economic roles in society, effort must begin in kindergarten, and because of the changing nature of work, will probably have to continue throughout adult life. Academic educators, particularly in the high schools, have been

reluctant to accept such responsibility, and have generally regarded career education, as a thinly disguised form of vocational education, which they reject.

Conversely, vocational educators have been enthusiastic about career education, but only insofar as it affects the academic community, and not themselves. Career education is rejected to the degree that it implies changes in the way vocational education has been traditionally delivered, or adds new responsibilities for vocational educators.

If confronted with such a charge, probably both camps would deny it. The vocational educator will point out that he teaches more than job skills. He deals with attitudes toward work, habits of punctuality and attendance, how to search for and apply for jobs, and a variety of other topics that go beyond specific occupational skills. The academic educator will point to the same topics, and both will end by claiming that they are performing their responsibilities, and if more must be accomplished, the other guy should do it. Further, since the really critical tasks of career or vocational degelopment are concerned with such matters as establishing a personal and career identity, exploration of one's interests and abilities; and relating these to occupational roles, both academic and vocational educators often point to the failure of guidance counselors in the school to do the job. In short, what has been conceived to be the responsibility of everyone in the system, has ended as the responsibility of no one. A major barrier to cooperation lies in the basic design and organization of the educational system itself which separates educators into academic departments, vocational training categories and camps of academic vs. vocational education (see Leighbody, 1972).

B. Definition of Specific Problems to be Addressed

While separatism and the need for a redesigned system of education will remain a critical problem, their scope is too global, and the hopes of change too remote, to constitute an adequate definition of the problem. Consequently, it is important to identify more specific concerns. The list might include:

1. The students who graduate from school who do not go on to postsecondary education and do not have the vocational training needed for employment.

2. The high school dropout.

3. The expansion of vocational education opportunities to provide training for those who need and request it.

4. Improving the success ratio or effectiveness of vocational training as measured by job placement and job competence.

For the most part, these problems will be discussed in terms of their significance to vocational education as it has been traditionally defined and structured.

C. The Effectiveness of Traditional Vocational Education

The effectiveness of traditional vocational education is judged by a variety of criteria which have emerged since 1917, including: providing adequate opportunities to meet vocational training needs of the population; cost effectiveness; and the outcomes of vocational training itself, i.e., job placement. This section examines vocational education from the traditional standpoint of preparation for jobs and its expected consequence for job placement and employability. However, it will be argued that the effectiveness of vocational education, when measured by traditional criteria, has come to depend on, to a large degree, accomplishing the objectives of career education.

As noted earlier, the traditional goal of vocational education has been to train students for entry into an occupation, and the major criterion of success has been the number of graduates who actually enter and remain employed in the fields for which they were trained. Such a criterion has led to a consistent call in vocational education literature for the use of follow-up studies. Were graduates employed in the field for which they were trained? Did they go on to postsecondary training in the same or related field? Did they get married and fall out of the labor market? Or were they employed in fields that had no relationship to their training?

While the results of follow-up studies vary with the occupational field, it seems safe to say that only 40-50% of vocational graduates pursue paths of endeavor which can be used to justify their vocational training under traditional criteria. Philip Ross (1977), Industrial Commissioner of New York State, and an outspoken critic of vocational education,

recently quoted the conclusions of the New York State Office of Educational Performance Review:

> Occupational Education has shortcomings when measured by the success of its graduates.
>
> Approximately three out of every five graduates employed full-time were working in positions not highly related to their training, more than two out of every five graduates, who were continuing their education, were studying subjects not highly related to their secondary training...
>
> Occupational Education is not meeting the needs of industry and business.
>
> More than 50% of the graduates employed full-time believed their secondary training was not necessary for their current jobs. Industrial executives agreed, often contending that vocational education graduates were not well-prepared in required basic skills, although they were sometimes prepared in specific practices no longer relevant to the needs of employers.

Ross also quotes from an evaluation from the General Accounting Office submitted to Congress "which is to be found in the Hearings before the Subcommittee on Education and Labor, House of Representatives 94th Congress, First Session on H.R. 19 and related bills, Volume 1 (1975)." The comments apply not only to New York State, but nationwide:

> "Labor market needs have been neither fully nor realistically assessed" (p. 49).
>
> "Student enrollments have not been aligned with employment opportunities" (p. 50).
>
> "Ratio of completions to enrollments have been low" (p. 52).
>
> "Students may not be employed in fields for which they trained" (p. 52).
>
> "Manpower data is unavailable or unused" (p. 53).
>
> "Work experience has not been an integral component of vocational curriculum" (p. 56).

These, and a host of other factors, have led to a reemphasis on the

need to closely align the planning of vocational education with the structure of, and conditions in, the labor market. Since students can be placed only if jobs are available, the notion arose that vocational educators should base their offerings on a detailed forecast of the manpower needs in the community which they serve. Indeed such planning became mandated by the 1963 VEA which required that every state submit a 5-year plan which would be revised annually. The 1976-1977 Plan for Vocational Education in New York State, contains such a forecast, and similar forecasts are advocated for every BOCES region within the state. These projections are obtained from economists in the various departments of labor, but they are regarded as inaccurate in both the short and long term (Evans, 1971, pp. 21-22). However, assuming that accurate forecasts could be developed, there is still serious question as to whether or not such forecasts can, or should be, the dominant factor in decisions to offer or not to offer specific vocational programs.

One reason that manpower forecasts do not enter vocational planning decisions is merely the lack of flexibility in adjusting the existing vocational education structure to shifts in the job market. Evans (1971) notes:

> Until the early sixties, vocational education had the meeting of the nation's manpower needs as its principle objective. So long as this was the case, vocational education would have had no alternative but to expand and contract in accordance with the perceived manpower needs. In practice, however, vocational education, as does any bureaucracy, fought reductions in support and managed instead to secure constant levels of appropriations during periods of labor surplus. On the other hand, when the nation's manpower needs were perceived to be great, vocational education profited from sharply increased appropriations. (p. 19)

Bureaucracy and self interest are factors to be considered. But so long

as vocational education is structured around occupational categories with highly specialized staff and equipment, there will obviously be a constraint on the ability of the system to adjust to cyclical or structural changes in the labor market.

A more serious problem emerges, however, when the question of student needs and interests arise. Vocational courses in cosmetology are a prime example. Labor market forecasts indicate a sharply lower demand for cosmetologists, yet the enrollment in such courses remains high, and in some schools continues to expand. If vocational education based its offerings on market projections, such courses would be reduced. Yet students who want to enroll in cosmetology refuse to adopt the manpower planner's point of view. Even though the outlook for employment is bleak, the student can claim that he or she will be exceptional and win out over the competition. When the educator is faced with the choice of denying enrollment to a student, who for one reason or another is excited about pursuing the program, the manpower forecasting theory goes out the window.

Yet, it would be a mistake to believe that all girls who enter cosmetology programs are really career oriented. More likely, many use the program to pursue their interest in personal grooming. The "beauty" craze can operate as strongly in girls as the tendency in boys to be "car crazy" and enroll in automotive mechanics. When the interest, motives and abilities of students are considered, the entire perspective of the vocational educational problem changes. To what degree can lack of manpower forecasting, failure to base curriculum on job requirements, and similar factors, really account for the dismal showing in follow-up studies?

Student Intent - The Key Variable

It seems that the critical flaw in the traditional perspective is that it fails to consider the crucial role played by the vocational and personal development of the student. As the 1968 Council pointed out: "...it is not the name of the subject that makes it vocational - it is the intent of the student and the arrangement of the instructional content..." The assumption in the traditional framework is that students enrolling in vocational programs intend to enter the occupation toward which training is directed. It also assumes that students view the arrangement of instructional content, as a tool for developing job competence, rather than as a vehicle for meeting some other personal objective. Yet, experience with vocational students, and knowledge of vocational development processes, indicate that both assumptions are invalid.

In regard to the first assumption, it is entirely possible that the reason why follow-up studies show only a 40-50% success ratio is that only 40-50% of the students ever intended to enter the occupation. However, this hypothesis has never been adequately tested, and it is possible that under the existing practice of vocational education, it cannot be validly tested. In compliance with Position Paper #11, New York State developed a Reporting and Evaluation System for Occupational Education (RESOE).[1] A sample questionnaire from the Foreman Area Education Center, Fairport, N.Y., includes only one question under item VII - General Information that can test student intention:

> Why did you choose to attend the area center in the occupational training area that you completed? (You may circle more than one.)

[1]Note: Data from the RESOE system has not been requested, but is might prove valuable in further development of this study.

1. to learn a skill for a job
2. to learn a skill for additional training
3. both 1 and 2 above
4. to learn skill for my personal use and NOT for a job
5. to earn high school credits for graduation
6. to prevent me from leaving school before graduation
7. another reason _____
please explain

While data has not been requested from the RESOE system on this or other items, it is unlikely that the results obtained would be valid for three reasons: (1) the time to evaluate the nature of student intentions is at the time of enrollment or at the beginning of the program; (2) given the occupational orientation of vocational programs, it is likely that students are aware of the vocational educator's expectations, and would be hesitant about admitting motivations for enrollment which were not employment oriented; (3) student intention must be evaluated in terms of vocational maturity. The statement "I intend" can reflect wide variations in commitment.

Vocational Development Determines Success

Yet, these factors highlight the issues that vocational development, as opposed to job training, raises regarding the goals of vocational programs. Since success in job training and job placement depends on the readiness and ability of the student, it follows that vocational education can never be more successful that the characteristics of entering students permit it to be. An exception to this principle comes about only to the extent that the vocational program can control or influence such general educational and vocational development factors in the course of its training.

Vocational development presents a picture of a student who is gradually learning to cope with the challenge of a future economic role. The

current schema suggests that the initial stage of "orientation" takes place in the early years, when a student begins to become aware of himself and the types of work that other people pursue. During the middle years of school, perhaps grades 7-10, the student is supposed to engage in an active exploration of his own abilities and the way they could apply to occupations. During the secondary years, perhaps grades 10-12, he engages in training for a specific occupation. But these are envisioned goals, and they contrast sharply with the realities of vocational development in our society.

Students entering vocational programs have not developed in the ideal pattern. Instead, they may pursue a vocational program simply as part of a vocational development pattern which, it is claimed, should have been completed earlier. They may be enrolling simply to learn what the occupation is all about (orientation) or may be using the program to test or explore their own abilities, and interest, i.e., to see if they can do it, or like doing it. The student who enters the vocational program, but decides he doesn't like the work involved, may: (1) drop out, or (2) continue the program if he needs the credit, but then not take a job in the field. In either case, the student would be counted as a failure in the traditional perspective of vocational education, but a success by the criteria of vocational development.

Similarly there are problems in basic educational and personality development which affect the success of vocational training and success in employment afterwards. Many students who enter vocational programs are academically "unsuccessful". Some lack the basic reading and arithmetic skills which are needed in vocational programs. Similarly, many

students are emotionally inmature and lack basic skills in human relations which are necessary to cooperative efforts on the job. Indeed, surveys of employers undertaken to determine the specific job competencies required, often reveal that the primary requirements employers desire are "the ability to learn", and personal characteristics such as "honesty, responsibility and the ability to cooperate". Other surveys show that most people who are discharged from their jobs are not fired because of technical or vocational incompetence, but because of basic personality factors and the inability to get along with others. Such factors are being included in programs of vocational development, but obviously they refer to even more fundamental factors in the process of education itself. Whether these surveys truly reflect the key competencies required for jobs, or merely the employer's area of greatest dissatisfaction has not been determined. Since employers still reject honest, cooperative people who can't type, it is likely they are reflecting their dissatisfaction with what they perceive as major deficiencies in education.

Some Qualifications

As valid as the argument for considering vocational development may be, it cannot be globally applied without some qualifications. First, the importance of personal and vocational development does not invalidate the need for specific job skills. Second, it is not universally true that every vocational program is beset by a figure of 60% entering students who lack the needed academic and vocational maturity prerequisties. And third, it does not imply that vocational educators must abandon their tradition altogether, and suddenly become a substitute for education as

a whole. On the other hand, each of these factors do imply a necessity for some degree of change that is unavoidable if vocational education is ever to escape its reputation for ineffectiveness.

Obviously, the argument that vocational education must address the problems of vocational development depends on the existence of students who enter the program lacking the vocational maturity and commitment needed to complete the program and obtain employment in that field after graduation. If acceptable numbers of students did enter with such maturity and commitment, the demand for change would be invalid, and the traditional structure of vocational education would continue without challenge. It is possible that in some areas of the state such conditions exist. Yet, if they could be expected anywhere, they should hold true in areas such as Buffalo where vocational high schools can be selective in their admission policies.

An interview with Robert Fritzinger, Assistant Superintendent for Vocational Education, provided the following picture. Like the other Big 5 cities, Buffalo operates a secondary school system with a combination of academic and vocational high schools. At the end of the eighth grade, students request enrollment in either type. The vocational high schools have a capacity for admitting approximately 1500 students into the 9th grade each year. There are approximately 4200 applications for these openings. Those who are enrolled, generally have high grades and a strong desire for vocational training. Yet, within the first two years, there is a significantly high proportion of students who request transfers to other programs. Most of these requests are accommodated.

A second compelling argument for acceptance of vocational development tasts within the vocational structure derives simple from the fact that vocational education sits at the end of the public school continuum. It is one matter to argue that if career education was adopted in the academic schools, the problem would be solved. It is another matter to believe that the public school system can ever be sufficiently effective to eliminate the problem. In either case, the role of vocational training as the last stage of the "bridge between man and his work" makes vocational education the beneficiary of academic education's success, and requires it to carry the burden of its failures.

Yet, the vocational educator is justified in asking, "How far should I go?" "Do you want me to take on responsibilities for the entire schooling process?" Every few years, national attention is focused on a new failure. Since 1968, attention has been given to the failure of students to achieve acceptable levels of vocational maturity. Before that, an equally important failure was reflected in the "Right to Read" program. One might suspect that the next focus will be on the value crisis in our society, and the failure of students to develop a meaningful set of values. Whatever deficiency attracts attention, all become relevant to the goals of vocational education, for all affect the ability of the student to successfully meet the challenges of the world of work and his economic roles in life as he enters vocational training in the latter years of high school.

Within the total schooling process, vocational <u>training</u> occupies the end of the continuum. It is indeed part of the "bridge between man and his work"; a transition phase; or part of modern society's "rite of

passage" in which the student integrates all he has learned and applies it to the problem of assuming an adult role on the economic stage. Job competencies are more than additions to the student's tool box for meeting life. They are vehicles for integrating, and focusing for practical application, all of the skills, values, and attitudes which he has hopefully developed in the previous years.

But it follows that what has never been developed, cannot be integrated, and it has been asserted that vocational education can never be more successful than the characteristics and intentions of its incoming students permit it to be. This fact can be taken as an excuse for failure or as a challenge to vocational educators to address problems which have so far been excluded from the traditional design of vocational education. The challenge is clear, and vocational educators who fail to address the problems of vocational development, have forfeited their right to complain when follow-up studies are used by their critics to claim that they are only 40-50% effective.

D. The Adequacy of Vocational Education Programs

An attempt to evaluate the adequacy of vocational education programs must deal with at least two dimensions. First, is program capacity adequate to enroll the number of students who request enrollment? Second, does the variety of programs offered adequately meet the diversity of occupational goals of students and the range of job opportunities in the labor market? In regard to the first question, BOCES and the Big 5 cities differ. Generally, there is little need to reject student applicants in area occupational centers. In the big cities, such as Buffalo, the contrast between 1500 openings and 4200 applicants for vocational high school tells the story. In the words of Mr. Fritzinger, "There simply isn't enough money to build or operate the schools needed."[1]

However, this comment applies only to the students who have requested vocational enrollment. The problem is potentially enormous when viewed from the perspective of career education and Figure 1. From this point of view, it becomes necessary to expand vocational education to accommodate large portions of general education students who presently do not go to college, nor receive job training. Even if half the general academic population were to be accommodated, it would require a three-fold expansion in vocational training capability.

To what extent does New York State intend to expand its vocational training capability? The long range goals of the Regents make their intention clear, i. e., to:

> Continue to expand and diversify programs at the secondary, post-secondary, and adult levels which prepare occupational education students for existing and emerging employment opportunities. (Regents' Position Paper No. 11, p. 15)

[1] Personal interview

But by the Regent's definition, all students in the state are occupational education students, and the goal of the Regents is similar to the national goal of Congress; to have:

> ...ready access to vocational training or retraining which is of high quality, which is realistic in light of actual employment opportunities or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training... (Section I, Part A, Public Law 88-210, December 18, 1963).

Interpreted within the existing structure of vocational education, such a goal would require expansion of occupational programs until any student in the state has access to a program which can lead to any one of over 20,000 occupational titles listed in the Dictionary of Occupational Titles. Does this mean that every region must support 20,000 occupational course offerings? That number could be modified, of course, by subtracting those titles which require a baccalaureate degree, and by success in developing programs which can train for groups of jobs without requiring a specific course for each job title. But, despite this modification, the number of structured programs required to achieve this goal is simply unrealistic. Given the most optimistic estimate of available resources, and even a most relaxed criteria of cost effectiveness; it is difficult to envision the financial capacity needed for such an expansion.

Some expansion of vocational training programs is envisioned at BOCES, but the Regents go on in Position Paper No. 11 to make it clear that they expect the goal to be satisfied by changing the existing structure and practices within the system.

First, they look for more flexibility through individualization and less emphasis on standardized courses:

> Continue to diversify opportunities through program design which permits greater individualization of instruction and fuller utilization of educational resources; e.g., modular scheduling and year-round instruction. (p. 15)

Second, they envision what might be called "moving the walls of the school into the community."

> . Increase emphasis on ...cooperative work experience and work-study opportunities. (p. 15)

> ...New York State needs to develop a comprehensive system of occupational education serving all persons in need of occupational preparation through utilization of all available resources, public and private, which offer such preparation. (p. 17)

Third, they envision as part of the effort, a new capacity for regional planning and coordination of available resources.

> . That all occupational education programs will be conducted within the framework of a State and regional planning process, coordinated by the State as part of its overall responsibility for education, and involving all levels of government and all agencies or groups which operate or are affected by occupational programs. (p. 17)

> . Continue the regional planning activity of all regions of the State, encouraging involvement and cooperation by all agencies and groups which have a concern for occupational education. (p. 16)

Each of these policy directions have implications for the future role of BOCES and its relationship to school districts. Converging trends in individualization are discussed later in this paper.

Attempts to move the walls of the school into the community are already a part of the vocational educator's arsenal. Cooperative work experience and work study programs have been in operation a long time. Recently there has been expanded attempts to involve the business community

in providing educational opportunities. The nationwide trends toward Industry-Education Councils is but one example. Advisory Councils are another. In addition, businesses have provided internships, speakers, and a wide variety of other services to teachers and students.

In short, there is a growing trend to involve the community in the process of educating students. The advantages of realism, the greater availability of resources, and the new perspectives gained from outside contact, has been incalculable. But as yet, the formal incorporation of such endeavors into the curriculum and organizational structure of the school has been missing. Both vocational and academic schools still operate on the basis of occupational categories, academic disciplines and a schedule of class assignments for students and teachers.

V. The New York State Plan for Occupational Education

If Regents Position Paper #11 represents theory and policy, one might anticipate that the New York State Plan for Occupational Education reflects practice. However, analysis shows that the plan serves the limited purpose of qualifying for, and stating the intended use of, federal funds which the state hopes to receive. The conceptual framework of the plan reflects three major influences: First, there is the emphasis derived from the LEA Act of 1963 which changed the focus from categorical programs to the needs of people. In practice, this has resulted in the creation of programs for special groups distinguished by sex, racial and ethnic background, socio-economic disadvantage, or physical and mental handicaps. The majority of students served in the state are included under the category of "other" or "general". The second influence is that of Regents Position Paper #11 which extends the scope of occupational education from elementary school through adult life. The third influence is the reality of the present system of vocational education organized around occupational categories and programs. Overall, however, these influences are reflected only within the apparently limited purpose of the plan to justify use of federal funds. There is no overall consideration of the system of occupational education within the state, no evaluation of strengths or weaknesses, and no statement of goals or priorities for achieving changes or improvements other than that necessarily involved in stating the intended use of federal funds.

A. Contrasting Influences in the New York State Plan

It seems legitimate to analyze the degree to which SED planning reflects the Regent's policy on occupational education. One way of doing this is to identify the specific portions of the plan in which concepts of Position Paper #11 are recognized, and contrast these sections to those dominated by other influences.

Influence of Regents Position Paper #11

The issues and recommendations of Position Paper #11 receive attention in a brief statement in the preface, and in the structure of the planned activities which follow in the last half of the report (pp. 135 - 217). The preface states:

> Although the State Plan is specifically concerned with occupational education, New York State recognizes the integral relationship between occupational education and the total educational process. All education in New York State, including occupational education, is governed by the Regents of the University of the State of New York. The various offices, divisions, and bureaus of the State Education Department exist in an interrelated structure under the authority of the Board of Regents. This structure assumes that the administration of occupational education in New York State will be part of the administration of the total educational process.

One might legitimately question the assumption that the existing structure does indeed accomplish the integration of occupational education into the total educational process. Of more immediate concern, however, is how the developmental paradigm adopted by the Regents, has been integrated into the Plan for Occupational Education.

Noting that the Regents are concerned with life-long occupational education and the "development of a comprehensive occupational education system

designed to serve the population at all educational levels" (p. 136), the plan discusses activities under the categories of; elementary and early secondary, secondary, post-secordary, adult, and multi-level. The multi-level category deals with general support activities that can serve the other four levels of instruction. The goals and activities will be analyzed later.

Influence of the Traditional Manpower Paradigm

The body of the Fiscal Year 1977 plan consists of 217 pages, and the first 135 pages is predominately based on the traditional paradigm for planning vocational training. It begins with a description of state population and student enrollments (pp. 1-22); provides an analysis of economic and employment trends in the state (pp. 23-69); describes the current programs and enrollment in occupational education with emphasis on special categories of students (pp. 70-88); provides a type of supply-demand analysis of projected employment opportunities by occupation, and the estimated input that can be provided by vocational education and other sources (pp. 89-127); and ends with a regional breakdown by county showing population, income, employment, and unemployment.

However valuable this type of analysis may be for purposes of manpower planning and guidance, its impact on the structure and conduct of occupational education is limited for reasons already noted: the inaccuracy of the forecasts; the inflexibility of the system in adapting to change; and the key role played by the interests and intentions of students who enroll.

The Influence of the VEA Focus on "People"

The major change in the traditional planning paradigm has been the shift demanded by the VEA Act of 1963 from categorical programs to the needs of people. How has this shift influenced the New York State plan? The effect has been merely to identify for special attention, those groups which have a special disadvantage in competing for jobs in our society. A special breakdown of student population is made by sex, reflecting the concern for equal opportunity for women and sex sterotyping of occupations; by racial and ethnic groups, again reflecting a concern for equal opportunity; and by categories of the disadvantaged and handicapped. The bulk of the student population is described as "general" or "other".

The question is not whether disadvantaged groups deserve special attention in the plan of occupational education. The question is whether this type of paradigm really accomplishes the proposed shift from categorical programs to the needs of people. The principle governing the planning of occupational education is that the problems of finding and assuming a meaningful occupational role in our society has become complex, not only for disadvantaged groups, but for everyone. The planning of programs by occupational categories is simply no longer adequate. To shift to the problems and needs of the people served, implies that planning becomes problem oriented, and many of these problems are identified in the tasks required for achieving vocational maturity. It is a cruel joke to pretend that the needs of disadvantaged groups are being met, if the only consequence of special recognition is to provide greater

access to traditional programs which are themselves inadequate. But it is an equally cruel hoax on every student in the state.

It seems reasonable that a people-oriented planning paradigm would begin with such questions as: How many people cannot read or write an acceptable letter? How many cannot perform the elementary arithmetical calculations required of consumers and workers? How many lack the capability to assess their own interests and abilities? How many lack knowledge of the educational and employment opportunities available to them? How many lack basic decision making skills required for making a choice between educational and occupational alternatives? How many are illiterate in the principles governing the economic system of our society? How many students have made occupational choices for which training capabilities does not exist in the schools? How many are still exploring occupational alternatives, and need exploratory experiences that are not available? In short, what is the level of vocational maturity which exists in our student population, and what programs can be designed to solve these problems?

Admittedly, the educational system cannot control the economic system of the country. There is no guarantee that jobs will be available after students are trained for them. There is no guarantee that after a student has identified a field of work which he anticipates will be "satisfying and fulfilling", that he will not suffer from "blue collar" or "white collar blues", resulting from the management's lack of capability to balance the demands of mass production with the need to structure work so that it satisfies human needs. Yet, such considerations only suggest further tasks for education which might be summed up as the "skills needed

for coping with an imperfect world".

These are the problems addressed in the purpose and intent of the VEA Act of 1963, the Amendments of 1968, Regents Position Paper #11, and the entire movement to redesign the educational system around the problem of people attempting to find their place in society and work that is meaningful to them and others.

While the first 135 pages of the plan reflect only traditional planning procedures, counting the number of pages addressed to traditional concerns is not a very compelling assessment. A more valid assessment is to examine the actions being taken to address fundamental issues, and the allocation of funds to support them.

B. Analysis of Goals and Activities

The last 81 pages of the plan provide an "Analysis of Factors Affecting the Need for Occupational Education Programs and Services" (pp. 136-155) and a specification of "Occupational Education Goals, Objectives, Activities and Costs," (pp. 157-217). Again, however, the content of the plan is limited to the use of federal funds. The only description of total state funding is contained in the appendix, (p. 221) and is reproduced here as Table 2. The breakdown does not follow the perspective of Position Paper #11 but rather the funding categories created by federal legislation.

Yet, this section of the plan begins with an impressive commitment to implementing the goals of Regent's Position Paper #11:

> Each year, goals for occupational education, as reflected in the State Plan, are reevaluated, and objectives and activities modified, added, or eliminated accordingly. Since the adoption in 1971, of the Regents Position Paper, Occupational Education, the policies and philosophy expressed in the paper have been a major consideration in the establishment of occupational education goals and the subsequent planning of programs and services. The goals thus establisted are further examined in terms of current and anticipated demographic, educational and economic conditions...
>
> A major concern of the Regents has been the development of a comprehensive occupational education system, designed to serve the population at all educational levels, through utilization of all available resources - public and private. Section IV of this plan sets forth the State's long-range and short-range plans for carrying out the Regent's policy. (p. 136).

If one compares such verbal commitments to the substance of funded activities, however, it becomes apparent that the State Plan primarily addresses that portion of Position Paper #11 which is compatible with activities

TABLE 2

ESTIMATES OF TOTAL FUNDS NEEDED FOR VOCATIONAL EDUCATION AND ANNUAL ALLOCATION PLAN

		Current (000)	Long Range Plan 1/ (000)	Long Range Plan 2/ (000)
Program/Purpose	Funds	1976	1977	1981
State Programs Part B	Total	449,000	449,330	649,000
	Federal	27,800	27,800	145,000
	S & L	421,200	421,200	504,000
Secondary	Total (F.S.L.)	254,600	254,600	363,720
Post Secondary	Total	67,400	67,400	97,730
Adult	Total	22,400	22,400	32,480
Disadvantaged	Total	42,700	42,700	61,915
Handicapped	Total	13,500	13,500	19,575
Construction	Total	9,000	9,000	13,050
Guidance and Counseling	Total	14,400	14,400	20,880
Contracted Instruction 3/	Total	(250)	(250)	(1,500)
Ancillary Services		xxx	xxx	xxx
Administration & Supervision	Total	21,500	21,500	31,175
Evaluation	Total	-0-	-0-	-0-
Teacher Training	Total	1,100	1,100	4,400
Research & Demonstration	Total	1,100	1,100	1,595
Curriculum Development	Total	1,300	1,300	1,885
Section 102 (b) State Program Disadvantaged	Total (F.S.L.)	1,300	1,300	1,885
Research and Training Part C	Total	800	800	1,200
	Federal	590	590	860
	S & L	210	210	340
Exemplary Programs Part D	Total	310	310	450
	Federal	310	310	450
	S & L	-0-	-0-	-0-
Consumer Homemaking Education Part F	Total	18,360	18,690	27,500
	Federal	2,360	2,690	3,900
	S & L	16,000	16,000	23,600
Cooperative Education Part G	Total	890	890	1,290
	Federal	890	890	1,290
	S & L	-0-	-0-	-0-
Work Study Part II	Total	1,770	1,770	2,600
	Federal	770	770	1,100
	S & L	1,000	1,000	1,500
GRAND TOTAL	Total	472,430	472,760	683,925
	Federal	34,020	34,350	154,485
	S & L	438,410	438,410	529,440

1/ Funds to be expended during the fiscal year of this plan.

2/ Projected need for funds for Fiscal Year 1981.

3/ These funds are not included in Part B Total or Grand Total.

Source: New York State Education Department, Bureau of Occupational Education, New York State Plan for Occupational Education, Fiscal Year 1976-77, Albany: SED, 1976, p. 221.

included in the traditional definition of vocational education, and programs categories already defined in vocational legislation. These contrast sharply with the recommendations of the New York State Advisory Council on Vocational Education which will be discussed in Section E.

The structure of planned activities in this section of the plan does follow the Regent's life-long perspective insofar as goals are divided into levels of instruction: elementary and early secondary education; secondary level, postsecondary level; and adult education. In addition, a "multi-level" section is used to list general support activities such as SED staffing, research and guidance which serve all levels. However, it should be noted, that all such levels, except elementary and early secondary, have been already established in the program categories defined by federal legislation and traditional practice. This can be verified by reference to Table 2. Thus, the question arises as to what concrete actions have been taken to address activities beyond those of the traditional delivery system?

C. Goals, Activities and Funding at the Elementary and Early Secondary Level

The narrative description of activities at the elementary and early secondary level occupies one-half page of the plan, and the detailed goals and activities are completely described on this page.

Goal 1: Enable students in all grades to develop awareness and understanding of the nature of work and the wide variety of occupational needs and opportunities in our society, and to explore and develop their own needs, interests, and abilities in relation to present and future roles as students, workers, and members of society.

> Activity: Complete the dissemination to all school districts of processes and materials developed through career education models; conduct workshops to prepare teachers in the use of materials and techniques for implementation of career education at the local level.
>
> Costs: $150,000 (8d)[1]

Goal 2: Stimulate occupational interest and provide exploratory and prevocational experience for students at the early secondary grade level.

> Objective: Early secondary students will receive exploratory and prevocational instruction in agriculture, home economics, industrial arts, and business education.
>
> Activity: Provide orientation and assessment experiences in selected clusters and programs in occupational education to motivate and reinforce preparatory choices.
>
> Costs: $10,000 (8d)[1]

If there is any principle widely accepted among educators concerned with occupational and career education, it is that any successful effort must begin in the early years of education and build gradually along the vocational developmental continuum.

It should be noted that the total allocation of $160,000 to this level constitutes only .47 of one percent of the total $34,020,000 of

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[1] ( ) indicates the VEA program purpose to which funds are charged.

federal funds being allocated in the plan. The majority of these funds are being used for disseminating materials and teacher workshops. The only project with direct student involvement is to provide exploratory experiences for 370,000 students in grades 7-10 for which $10,000 is allocated or 2.67 cents per student. Note also in Table 2, that activities at the elementary and early secondary level are not explicitly mentioned in the overall financial summary.

D. Goals at the Secondard Level

At the secondary level, eight goals were established:

1. Serve public secondary students who need and desire occupational education by providing diversified programs designed to meet manpower needs.

2. Provide secondary occupational education students with the basis for continuing their occupational education at post-secondary institutions. (This refers to activities to articulate and coordinate the connection between programs offered at secondary and post-secondary institutions.)

3. Encourage youths to participate in student organizations which foster leadership activity.

4. Provide guidance, counseling, placement and follow-up services for all students appropriate to their plans to continue their education and/or to seek employment.

5. Strengthen the preparation of secondary occupational education teachers, administrators and support personnel.

6. Develop and improve the consumer-home making skills of secondary school students.

7. Assist disadvantaged students who need and desire occupational education to successfully complete high school and to obtain meaningful employment and/or continue their education.

8. Provide opportunities for handicapped secondary students who require special services or programs in order to succeed in occupational education.

Table 3 compares these goals to funded activities. The question to be asked in analysis of secondary level expenditures, is what activities are being undertaken that go beyond established traditional vocational education activities, and speak to implementation of the vocational development concerns in Position Paper #11? The data in Table 3 does not provide a definite answer. But several inferences can be made.

1. A new concern is being shown for disadvantaged and handicapped groups. This is a result of federal legislation and restrictions on how VEA funds are to be used.

   The bulk of money for the disadvantaged is being allocated to urban districts where an unusually

Table 3

Analysis of Goals & Funding at Secondary Level

Goals	Support Course Offerince	Cooperative and Work Experience	Teacher in-Service	Innovative Practices	Total Goal Allocation
Serve students with programs	2,000,000(u) 1,700,000(r) 3,700,000	400,000(u)		138,500 Selected LEA	4,238,500
Encourage youth organization			36,500		36,500
Provide guidance, counselling and placement services					See multi-level
Strengthen teachers administrators and support personnel			246,500		246,500
Improve consumer-homemaking skills of students			30,000		30,000
Supplementary services for the Disadvantaged in occuapational education	2,112,500(u) 1,137,500(r) 3,250,000	476,632(u) 769,897(u) 1,246,529		1,312,591(u) 200,000(r) 250,000(NYC) 1,762,591	6,259,120
Assist Handicapped with special and Supplementary services	1,400,000(u) 800,000(r) 2,200,000		13,000 24,000 37,000	300,000(i) (state-school)	2,537,000
TOTALS	9,150,000	1,646,529	350,000	2,201,091	13,347,620

(u) = Big Five Cities
(r) = Rest of State
(i) = special state school for handicapped

high proportion of the population can be classified as disadvantaged.

2. Despite the emphasis on the disadvantaged, the majority of service is being provided within the traditional paradigm.

3. If funding for innovative practices and special projects is the major indicator of progress toward redesigning the system, a total of $2,201,091 or 16.5% of the secondary budget has been allocated for the purpose. However, only $138,000 can be identified under Goal 1 and $200,000 under Goal 7 for projects not specifically directed toward special services for the disadvantaged, mostly in urban areas.

The $2 million expenditure for innovative practices is not unreasonable, and it does not follow that because the innovative practice deals with special problems of urban areas and the disadvantaged, that results can not be applied in other areas. Yet, a picture of strong SED commitment to the goals of Position Paper #11 is not apparent.

E. Multi-level Goals and Activivies

The multi-level section of the plan is a mix between educational support activities needed by all student and general administrative support activities for the entire system. The goals identified in these sections are as follows:

1. Assist in diminishing the barriers to educational and occupational opportunity that may be encountered by various segments of society, including the handicapped, the disadvantaged, women, and other groups.

2. Provide leadership to achieve goals and objectives of occupational education in accordance with Federal, State and local policies, rules and regulations.

3. Continuously reexamine and strengthen the relationship between occupational education programs and current and anticipated employment opportunities.

4. Conduct research, evaluation, curriculum development, exemplary projects, teacher education, and guidance activities, designed to enhance the quality of the State's total occupational education programs.

Again, the implementation and the direction of these goals can be assessed by identifying the type of activity and the allocation of funds being made. This is summarized in Table 4.

Acitivites to accomplish goal 1 involves a continued assessment and publication of the problem, and efforts to change institutional practices "to minimize the influence of sex sterotyping in student selection of occupational programs". No funds are specifically allocated, but "where appropriate, such activities may be supported through funds identified for program development purposes at various instructional levels" (p. 205).

The leadership activities to support goal 2 consist entirely of staffing and administrative costs for various levels of the organization:

Table 4: Analysis of Multilevel Goals, Activity and Funding

GOALS	ACTIVITIES					TOTALS
	Support Organization and Fund Staff	Existing Projects	New Projects	Staff Training	Exemplary Projects	
Diminish Barriers						
Provide Leadership	$2,775,366 (SED Staff) 34,000 (SED Staff) 260,972 (RCU Staff) 40,000 (EDPA Staff) 775,000 (LEA Staff)					3,885,368 (60.8%)
Match occ. educ. to labor mkt.	135,000 (Industry-Education Coordinators)					135,000 (2.1%)
Research & Development	100,000 (Cornel Center)	290,000 (RESCOE)	230,000[3]	321,000	311,559[1]	1,252,559
a. Curriculum	240,000	100,000[2]	75,000[4]			515,000
b. Guidance & Placement	200,000 (placement coordin)	400,000				600,000
TOTALS	$4,560,388 71.4%	$890,000 13.9%	$305,000 4.8%	$321,000 5.0%	$311,559 4.9%	$6,387,947

1. Limited English speaking ability.
2. Expand and refine a modularized, competency based instructional program and initiate new program areas for development.
3. Lists research priorities.
4. Development of curriculum at regional level suitable for statewide dissemination.

Specifically these are:

> Provide partial support for Department staffing and related expenses. Activities of the State staff include administrative functions of occupational education planning, consultive services for regional planning and implementation, and supervisory services for improvement of instruction.
> Costs: $2,775,366 (8a-1) and $34,000 (F2).
>
> Support staffing costs of the Research Coordinating Unit.
> Costs: $260,972 (C1)
>
> Support administrative costs of EPDA - Part F programs.
> Costs: $40,000 (EPDA)
>
> Provide direct cost support for applicable administrative and supervisory positions in local educational agencies.
> Costs: $775,000 (8a-2)
>
> Total cost: $3,885,338

A second leadership activity of great importance to this study was listed as:

> Continue to assist in the development of coordinated regional planning among the public and nonpublic occupational educational agencies in each region of the State, to ensure that a cost-effective system of quality programs and services will exist to meet the occupational needs of people and the manpower needs of employers in each region.

While no funds were allocated to this activity under Goal 2, there are several developments which deserve attention. First, related support is received under Goal 3 where funding of industry-education coordinator positions is requested:

> Provide partial support of regional industry-education coordinator positions established in previous years. The coordinator will work closely with local, area, regional, and State education agencies to improve two-way communication between educators and employer and employee groups.
> Cost: $135,000 (8a-2)

These coordinators have been quite successful in obtaining the cooperation

and support of business and public service agencies in providing resources to the educational community, and obtaining community input into the planning process.

Second, for several years, the State has required the development of regional plans, and thirteen regional planning units have been established. The new State Plan for Occupational Education will distribute VEA funds on a regional basis. However, the plan is not yet published, and no attempt was made to obtain information on the procedures to be used. Whether this will result in improved planning perspectives or a change in priorities cannot be determined.

Some critical questions might be raised about the SED approach to its leadership goals. In somewhat of an oversimplification, the plan reflects three basic alternatives: (1) staff positions throughout the state which are charged with attaining state goals and objectives; (2) provide staff training; and (3) finance research and development activities which can demonstrate new methods. Approximately 70% of the multi-level funds have gone to the establishment of positions at various levels in the organization.

One question which seems relevant, arises from governance policy. Under existing policy, regional units are established only for the purpose of providing supplementary and shared services to school districts. While the district superintendent essentially wears two hats, and most programs are subject to SED approval; nevertheless, the role of SED is supposedly limited to setting of minimal standards. Efforts to go beyond that role can be expected to arouse resistance from local school districts, and indeed, violate in a sense, the existing policy on governance. In this context, the positions established in regional units and

LEA's are under local control, and it is questionable if they will effectively function to promote the state goals. It is more likely that they will be preoccupied with local concerns.

In one sense, the question is academic, since SED does exert influence, particularly on BOCES operations. Yet, funding for BOCES must come from the LEA's, and after federal assistance expires, continued progress depends on local assumption of costs. While it would take a more detailed study to evaluate this basic strategy, there is reason to feel uneasy about its effectiveness.

If 70% of the funding has gone to the strategy of establishing staff positions, less than 30% has been allocated to other strategies. In the context of Table 4, 50% is directed at training of professional staff, and 25% to fund research and development projects. In Section VII, it will be argued that a function deserving the highest priority is to develop modular and individualized programs to build flexibility into the system. Activity 4a(2) addresses this need.

> Expand and refine a modularized, competency based instructional program and initiate new program areas for development.
> Cost: $200,000 (8d) (p. 209).

Additional support is received in the job description established for curriculum coordinator positions for which funds are requested. They are t[illegible]

> Coordinate occupational education curriculum development activities which have local and statewide applicability and which focus on: articulating curriculums among all instructional levels; formulating and utilizing behavioral objectives based on job performance requirements; and developing modular curriculum design to permit flexibility in achieving individual career objectives. (p.215)

However, only $200,000 or 3.4% of the total funds in the multi-level area have been specifically directed to this need.

F. Recommendations of the New York State Advisory Council

Since passage of the VEA of 1963, each state has been required to have an advisory council for vocational education composed of representatives from business, industry, and the community. The councils were primarily intended to make vocational education responsive to changing conditions in the labor market and the changing skills needed for employment. The finding of the New York State Office of Educational Performance Review deserves repeating in this context:

> More than 50% of the graduates employed full-time believed their secondary training was not necessary for their current jobs. Industrial executives agreed, often contending that vocational education graduates were not well prepared in required basic skills, although they were sometimes prepared in specific practices no longer relevant to the needs of employers.

Obviously, the existence of an advisory council, which can review the practices of vocational education and relate them to the practices in business and industry, can serve as an important influence on the improvement of vocational education.

However, it is instructive to compare the recommendations of the New York State Advisory Council on Vocational Education to the New York State Plan for Occupational Education. The council's recommendations were printed in Appendix II (pp. 258-263), the very last pages of the planning document, and received no explicit recognition in the text of the plan. The majority of the recommendations dealt with the need to implement career education, and they are reprinted here without the accompanying SED response.

RECOMMENDATIONS IN

SIXTH ANNUAL REPORT BY THE NEW YORK STATE

ADVISORY COUNCIL ON VOCATIONAL EDUCATION

1. Infuse the career education concept into:
   - subsequent policy publications including position papers
   - all curriculum guides in all disciplines at all levels
   - teacher and counselor preservice and inservice programs and certification requirements.

2. Encourage state and local education agencies to assign a high priority to career education and to reflect this priority in the budgetary process which plan the expenditures of Federal, State and local resources.

3. Unify and coordinate the various blueprints for learning in the State, including the State Plan for Occupational Education and the Master Plan for Higher Education.

4. Appoint a member to the council from a high school student level, preferably on a yearly rotational basis, who represents the occupational student organizations.

5. Distribute widely, results of the evaluation of Federal Vocational Education Career Education Projects.

6. Set-up statewide and regional clearinghouses for career education which would receive and synthesize career education plans including administrative practices, curriculum innovations, and other materials helpful in implementing career education.

7. Establish several in-service education teams throughout the State to provide schools, business, labor and community representatives with information and assistance in implementing career education, and with emphasis on the development of local leadership.

8. Implement previous Council recommendations concerning the preparation of a position paper on Guidance and Counseling.

9. Distribute again to local superintendents, directors of occupational education and other concerned persons, copies of the statement of support of occupational student organizations issued by the Assistant Secretary for Education at the U.S. Department of Health, Education and Welfare. Such a mailing should include a reaffirmation of the support of the Regents and the SED occupational student organizations.

10. Organize one or more conferences or forums bringing together special and occupational educators, guidance personnel, personnel from the Office of Vocational Rehabilitation and others. Purpose of the meetings is to enable participants to develop cooperatively a plan for infusing career education into programs for handicapped students.

11. Prepare and distribute a promotional brochure describing student organizations-their benefits to students, business, industry, labor involvement, and other pertinent information.

12. Continue to maintain separate identities of the current student organizations, but continue to encourage cooperation among the groups where the best interest of the student will be served.

13. Expand inservice workshops so that advisor training will be available to all teachers representing all occupational education organizations.

14. Work with the Division of Teacher Education and Certification to encourage teacher education institutions to include youth organization advising in their programs.

A review of the Seventh Annual Report shows that the council has emphasized two concerns: 1) the implementation of career education, and 2) the quality of planning for occupational education. While it is beyond the immediate scope of this study to assess the basic position of the Council and its degree of satisfaction or dissatisfaction with SED efforts, it is noteworthy that the council has singled out these problems from the many other concerns which have traditionally occupied vocational educators. If the function of the advisory council is to point out ways in which the vocational education delivery system can be made more responsive to needs in the world of work, it is significant that seven out of fourteen recommendations address career education or problems of vocational development rather than those of specific vocational training.

G. Evaluation of the New York State Plan

The previous discussion focused on the New York State Plan for Occupational Education with the assumption that it truly reflected the scope of the SED's planning activity. Further research indicated that it may not. The Seventh Annual Report of the New York State Advisory Council indicated that $28,000 in federal funds has been obtained to develop a New York State Plan for Career Education during the year 1976-77. If such a plan has been developed, a proper analysis of state planning for occupational education would involve a comparison of the two documents.

On the other hand, there is a certain validity to the questions raised during this analysis which transcends the accuracy or comprehensiveness of the planning data available. First of all, the state plan seems to be primarily a response to federal requirements for funding, and only secondarily an attempt to plan for occupational education as a whole. While the Advisory Council "agreed that the present State Plan probably exceeds the requirements set by federal law and regulations," (p. 31), it pointed out several areas for improvement. Certainly a major area for improvement is to transform the plan from a document dealing with federal funds, to one which plans for the total occupational education effort in the state.

Second, it seems that a legitimate framework for planning should reflect the SED's perception of strengths and weaknesses, and their relative priority for action. Again, the State Plan fails to provide such a perspective, and the listing of projects and activities seems to be an opportunistic attempt to demonstrate that New York State shares the concerns of national policy makers.

Clearly, the greatest financial effort has gone to maintenance of existing programs and creation of special programs for disadvantaged groups, which currently enjoys federal emphasis. Venn (1970) advocated that vocational education stop treating the "pool of the unemployed," and prevent the pool from forming at all. While disadvantaged groups make up a disproportionate share of that pool, competent planning would also deal with the large number of high school graduates who will not go on to post-secondary education and are not equipped with skills needed for a job.

Finally, there is little recognition of the issues raised by Position Paper #11. The development of a separate plan for career education may lead to improved performance in the area of vocational development. However, it also seems that a separate plan would contradict the Regent's insistence on an integration of vocational and academic education, and would promote separatism with its negative consequences. Regardless of how federal policy may separate planning for vocational and career education, it seems desirable that New York State prepare a plan for their integration.

VI. Occupational Education - The Status of a "Paper" Program

Six years have passed since the publication of Position Paper #11, and since national attention was first focused on career education. Except for a dedicated group of advocates, a general opinion prevails that career education is simply another national bandwagon which will pass from the scene, and that Position Paper #11 will remain a "paper" program. If judged solely from the lack of wide spread change in the educational system, such a conclusion seems justified. However, if judged from the nature and complexity of the problems addressed, and the planning and research being supported at the national level, one can reach a different conclusion entirely. Clearly, an attempt should be made to assess the potential impact of career education on the educational structure of New York State, and progress that is being made.

The absense of widespread change through implementation of career education can be traced, in large part, to the fundamental strategy adopted by the USOE in its introduction. Sidney Marland, in introducing the concept as a major goal of USOE, refused to define what he meant by career education. Instead, he presented it as a problem to be solved, and asked that wide spread effort be undertaken by educators, business and community leaders to develop concepts of what career education should be, and how it could be implemented. A variety of local projects were funded both to make local educators aware of the nature of the problem, and to provide an opportunity for devising solutions. Simultaneously USOE funded major research efforts to develop rationales and experimental models that could approach the problem from different directions.

Since career education was a life to grave concept, and was designed

to meet the needs of all people in a variety of life situations, the research models were not confined to the school. Four basic types of models were funded.

> The school-based model affects the K-12 curriculum by implementing career concepts at all educational levels; the employer-based model utilizes groups such as unions, community organizations, and public agencies to provide unmotivated students, aged 13 through 18, with educational opportunities outside the school; the home-based model identifies the home as a learning center and uses television and radio, audio-visual tape cassettes, and a variety of printed materials to increase the employment opportunities of young adults, aged 18 to 25; and the institutional model (sometimes called the rural-residential model) brings unskilled rural families to a centrally located training site. The family lives at the training site where each member of the family develops appropriate career roles. (Nelson and Clow, 1973, pp. 4-6)

Responsibility for these models has since been transferred to the National Institute for Education, and most are just reaching the stage where adequate testing has been accomplished and results can be disseminated.

A review of some recent reports on major career education models and projects can provide clues as to the direction which Regent's Position Paper #11 can lead, and the implications they have for both vocational and academic programs.

A. The Comprehensive Career Education Model - (CCEM)

One of the major school-based projects was originally contracted to the Center for Vocational and Technical Education at Ohio State University. In an unpublished introduction, they provide a critical perspective on their effort.

> The entire concept of career education is so new that a definitive theory is still in the process of emerging. This theory emerging through CCEM is an integration of concepts related to self, culture and career. (Developmental Program Goals for the Comprehensive Career Education Model, Preliminary edition, August, 1972, p. 10)

The center was heavily influenced by Jerome Bruner's work on the use of structure in curriculum and learning. It also drew on the variety of theories of vocational development which emerged in the 1950's and 1960's: Beilin, 1955; Bordin, Nachmann and Segal, 1963; Ginzberg, Ginsburg, Axelrad, and Herma, 1951; Hershenson, 1966; Holland, 1966, 1973; Roe, 1956, Super, 1957; and Tiedeman, 1961; among others.

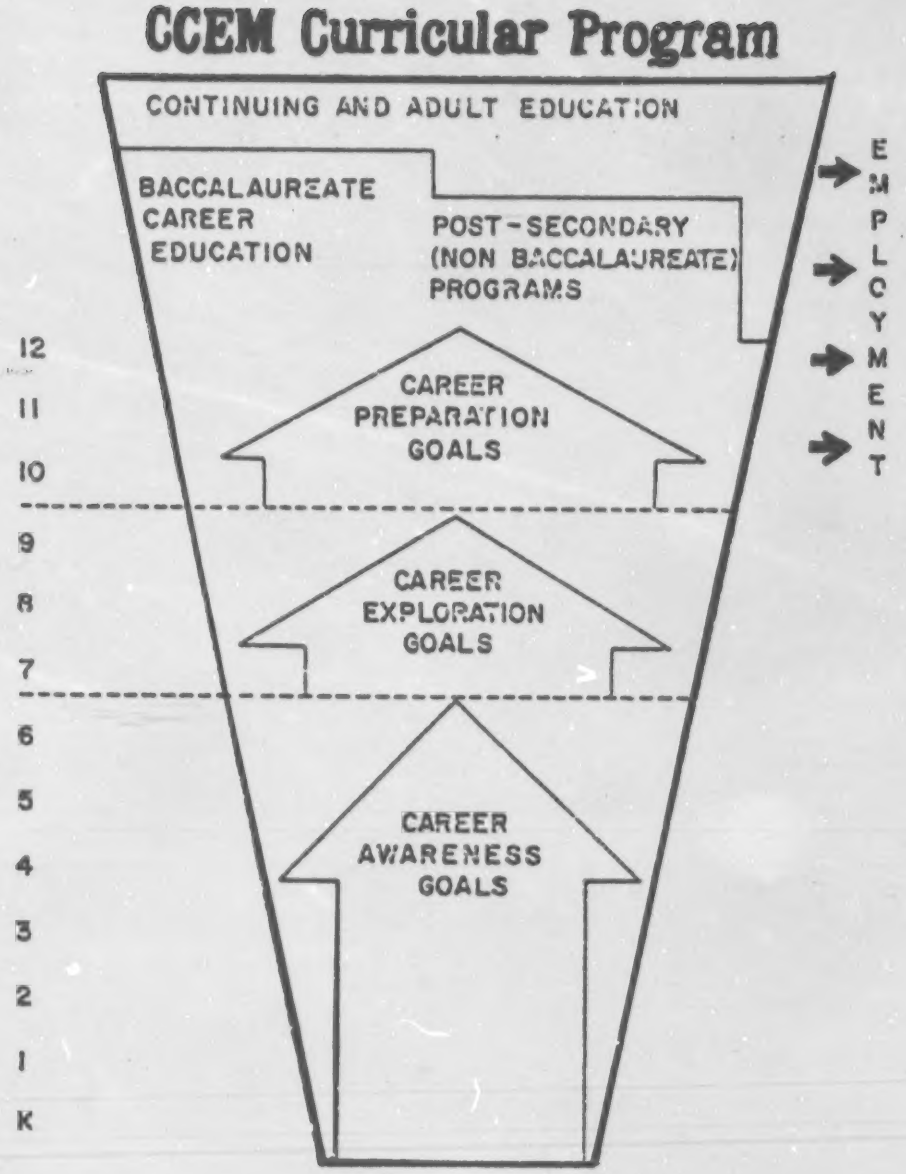
From these frameworks emerged critical perspectives which began to operationalize the Regent's call for adopting a developmental perspective for occupational education. Essentially, two broad questions must be asked. First, what are the stages of vocational development, and second, how can these aspects of development be treated in the schools? The answer to the first question has been summarized in a diagram which closely parallels the Regent's listing of tasks which should be accomplished by given ages. This is shown in Figure 2. The major differences between this description and that of the Regents is that the development is not described chronologically by age.

The CCEM's answer to what aspects of the person are involved in

vocational development, is summarized in Figure 3. They define eight broad areas of development, listed in the illustration. These areas were broken down into 104 cells across 13 grade levels. Then several thousand career educational objectives and activities were defined and developed to comprise a total career education model. In addition, subsystems were developed to support such specific activities as developing awareness of the occupational opportunities which exist. This gives rise to the CCEM's Career Information Model which is summarized in Figure 4.

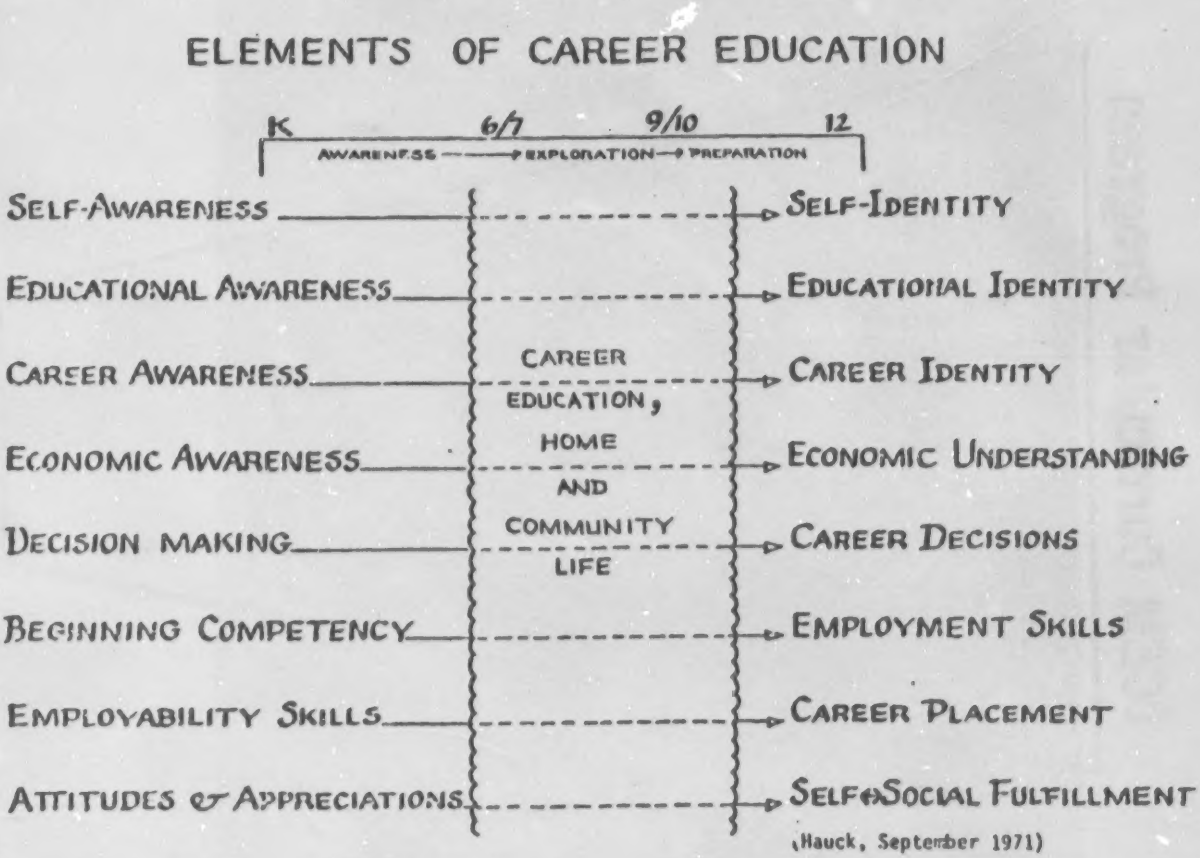
But another important concept emerged from the CCEM project which might challenge the Regent's claim that occupational education will require a redesigned educational system. That concept was influsion. Infusion holds that the system need not be redesigned, but that career education can be implemented by "infusing" it with existing academic disciplines. Figure 5 graphically illustrates this concept. The argument for infusion assumes that the existing structure of education is sound, and that the essential task is to show the relevance of school subjects (and learning in general), to the tasks of finding satisfying work in society. The success of this strategy will be discussed later.

Figure 2



Source: Developmental Program Goals for the Comprehensive Education Model, Preliminary Edition, The Center for Vocational and Technical Education, the Ohio State University, August, 1972.

Figure 3

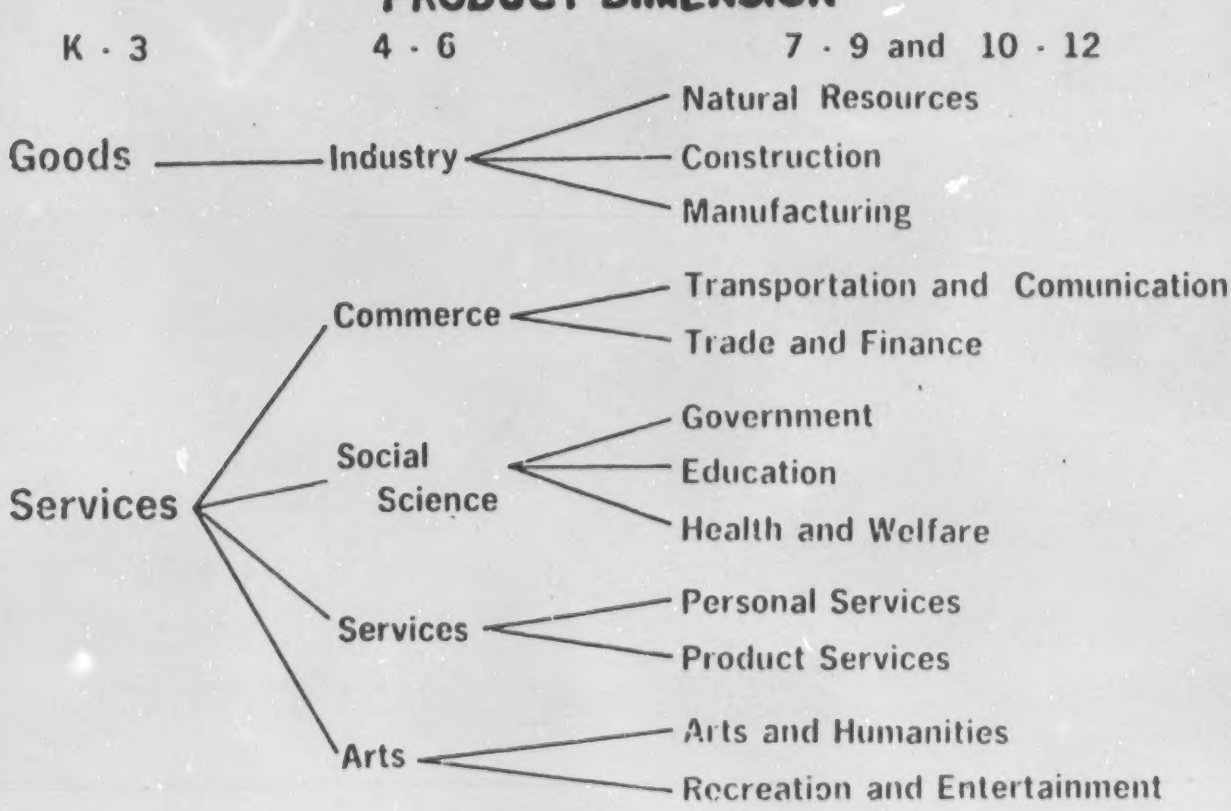


Source: Developmental Program Goals for the Comprehensive Career Education Model, Preliminary Edition, The Center for Vocational and Technical Education, the Ohio State University, August, 1972.

Figure 4

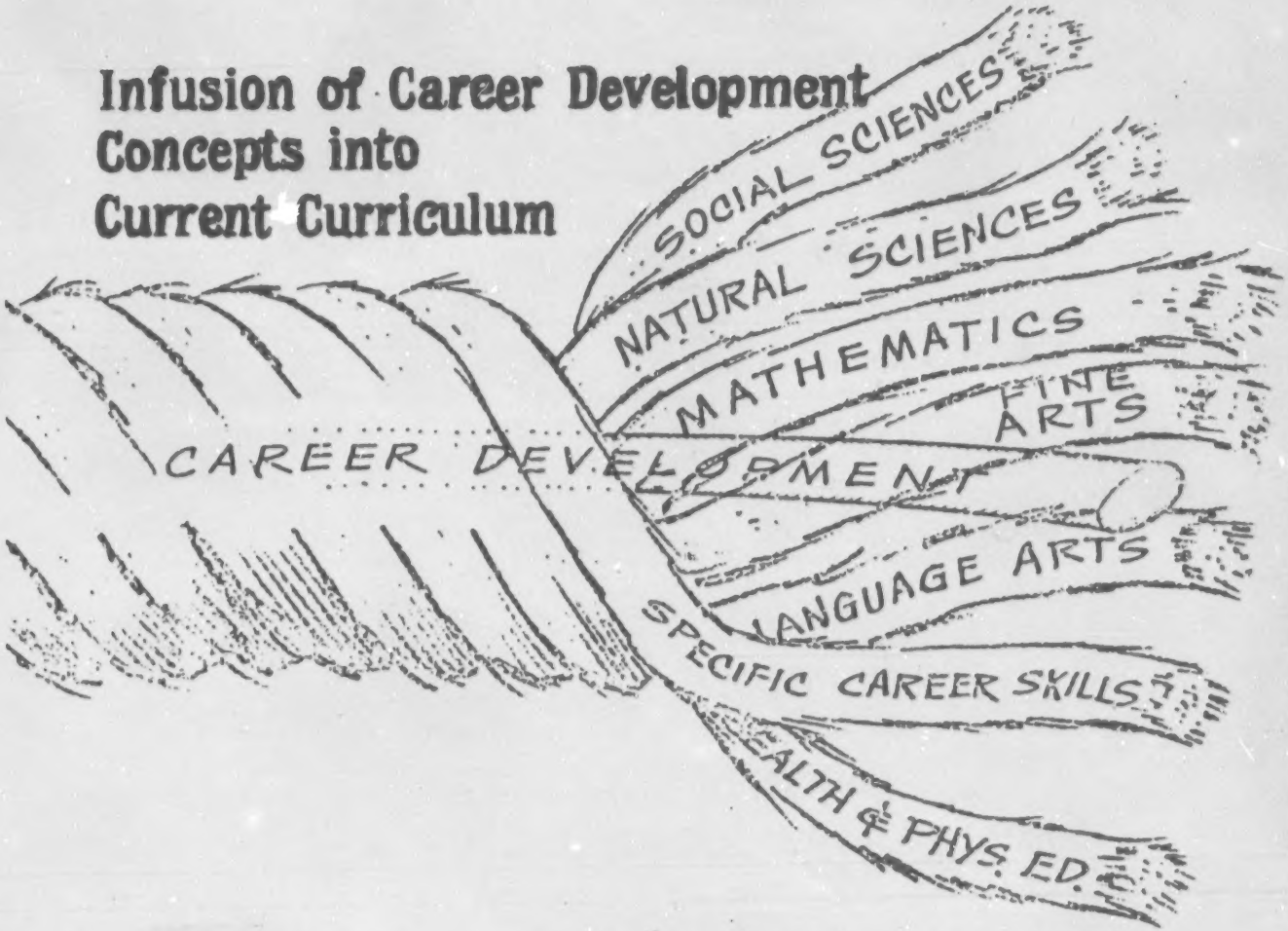
CCEM Career Information Model

PRODUCT DIMENSION



Source: Developmental Program Goals for the Comprehensive Career Education Model, Preliminary Edition, The Center for Vocational and Technical Education, the Ohio State University, August, 1972.

Figure 5



Source: Developmental Program Goals for the Comprehensive Career Education Model, Preliminary Edition, The Center for Vocational and Technical Education, the Ohio State University, August, 1972.

B. The Experienced Based Model

Kershner and Blair (1976) reported on an experience based model developed by Research for Better Schools, Inc. (RSB), which has implications for change in schooling practices. Located in Philadelphia, Pennsylvania, the RSB project is one of four similar prototype contracts issued by the National Institute of Education. The others are located in Charleston, W. Va., Oakland, California, and Tigard, Oregon. Kershner and Blair point out that while differences exist in the "operational form" of each project, all assert "that for many students, traditional public school education does not provide sufficient "cognitive and affective preparation for adult life", and in addition, "that direct experience in vocational environments can function as a major curriculum component of a structured educational program". (p. 28).

However, it should be noted that the RSB project does not operate within the traditional scheduling and standardized course restraints of the public school. Students are specifically enrolled in the RSB Career Education Project and follow a schedule which permits them to receive instruction in the community as well as school. Kershner and Blair distinguish sharply between using the community for job training and using it for instruction.

> Inherent in this conception is an important distinction between using vocational environments to teach job skills through apprentice like activities and using them to teach career skills through an instructional program. Experience-based Career Education emphasizes the latter. The primary goal is providing students with the information, experience and decision making skills for effective career selection. (p. 28).

The RSB model uses a combination of school and community environments in the instructional program, which consists of three components: Career

Exploration and Specialization, Career Guidance, and Basic skills.

RSB uses "commercial, industrial and service agency settings" as "resource sites" and these are integrated with the rest of the curriculum.

> For career exploration, students have available a series of approximately 20 clusters of resource sites ranging through Animal Resources, Construction, Finance, Social Services and Transportation.
>
> Approximately 80 related companies or sites have used their combined resources to plan and conduct cluster activities. Examples are, Lankenau Hospital, Bell of Pennsylvania, Drexal University, ARCO, Continental Bank, U.S. Civil Service Commission, Acme Markets, and American Airlines. Each cluster program is developed jointly by representatives of the participating resource sites and RBS. The programs are conducted by employees of the participating companies and agencies.
>
> For each 12-week academic quarter, students elect one of the available clusters for their Career Exploration experience. They are involved in the cluster sites for one full day each week. These first-hand resource site programs are designed to allow students to learn about the economic community, to test their own vocational interests, and to obtain information for their career planning. (p. 29).

Once a tentative career decision has been made, the student may elect to participate in career specialization.

> These are programs designed for individual students to investigate a single job or resource site in depth. The student defines objectives for each specialization, and activities are constructed to pursue those objectives. Specialization may last from a few weeks to many months. Together with Career Exploration, they constitute the student's direct experience in vocational environments. (pp. 29-30).

In the Career Guidance component, students meet weekly for an hour and a half in small group guidance sessions, and in addition have individual counseling sessions at least once per month.

> This component is viewed as crucial in helping students to understand themselves, to assimilate their experiences

> in the program and to understand career choice within the context of their own values ...in these sessions an eclectic curriculum, which drawn upon students' resource site experience, is employed to promote self exploration, values clarification, life skills, motivation to learn, career planning and integration of program activities... since their counselors also perform the resource site liaison, substantial interaction with counseling personnel is available. (p. 30)

The basic skills component makes use of Academic Resource Centers which focus on:

> the development of skills in communication and mathematics. The Individualized Learning for Adults approach is employed using a wide variety of materials and resources to construct learning programs for each student. Students are scheduled into the center for six hours per week. After their strengths and weaknesses have been diagnosed, they begin to work through an individually prescribed program at their own rate with trained teachers available to help as needs arise and to monitor programs. Activities in the Academic Resource Center are integrated with other program elements where appropriate and possible. (p. 30)

Kershner and Blair devote the major portion of their article to an evaluation of results. A combination of standardized and locally-developed evaluation instruments were used.

> 1. The Comprehensive Tests of Basic Skills (CTBS) to measure traditionally conceived cognitive skills in reading and mathematics.
>
> 2. The Career Maturity Inventory (CMI) to measure vocational attitude, career knowledge and career planning.
>
> 3. The Assessment of Student Attitudes Survey (ASA) to measure attitudes toward learning environments.
>
> 4. The student Demographic Data Questionnaire (SDQ) to measure background variables. (p. 32)

Using control groups in the traditional schools, the authors found statistically significant improvement in all areas except basic skills.

While the mean scores of career education students were higher in basic skills, they were not sufficiently higher to meet a significance criteria at the .10 level.

C. Regional Planning and Coordination

Carr, Agnello and Feiler (1976) report on a career education project in Richmond, California which indicates trends which could develop in regional and community cooperation. The article focuses on the cooperative efforts made by the school and public service agencies in this career education project, rather than on student activities. The primary concern of the authors was to examine the conditions which made the school-community effort possible.

In this case, funding for the career education project was coincident with funding of a separate "Allied Services Project" (ASP) designed to build community cooperation. Carr, et. al., (1976) explain that the purpose of the ASP was:

> to demonstrate that public agencies can deliver services more effectively and more efficiently by integrating related (or allied) services. City and county governments, like school districts are caught in a squeeze between the increasing demand for human services from local citizens and the decreasing availability of tax dollars to pay for those services. Elected officials then have a choice from the alternatives of: (1) cutting back on services, (2) raising more tax dollars, (3) finding ways to deliver services more efficiently. One way that has been proposed to deliver services more efficiently is the coordination of existing services across all agencies offering these services.

Planning began with meetings of the Allied Services Citizens Committee of Richmond and the identification of problems which could be attacked by coordination of services. They identified problems of "school dropout, truancy, and lack of career alternatives." The coordinator of the career education project at the Richmond Unified School District was a member of the committee. The decision was made to augment, not duplicate the RUSD efforts, by forming Career education teams which would

be made up of representatives from the school and members of local county service agencies. The final team consisted of "six teachers, five para-professionals from four agencies, the high school principal, the vice principal, and a counselor-coordinator. Representatives from county agencies included social workers from the Social Services Department, a social worker from the Medical Services Department, a juvenile protection officer from the Probation Department, and a psychologist from the Community Mental Health Department.

Carr, et. al., rate the project a success, but were quite realistic in identifying the problems encountered in: coordination; the time lost by the need for representatives from other agencies to reorient themselves to the school; and the problems in compromising between diverse rules governing the different agencies.

VII. Issues and Problems in Occupational Education

It should be kept in mind that the implementation of Occupational Education in New York State is somewhat different than the problem of infusing career education into the academic curriculum and maintaining vocational education as a separate job preparation experience. The Regents have taken a stand against the separatism which this scenario implies. Nonetheless, a better grasp of the issues might emerge by contrasting the implications of a career education perspective to that which now exists.

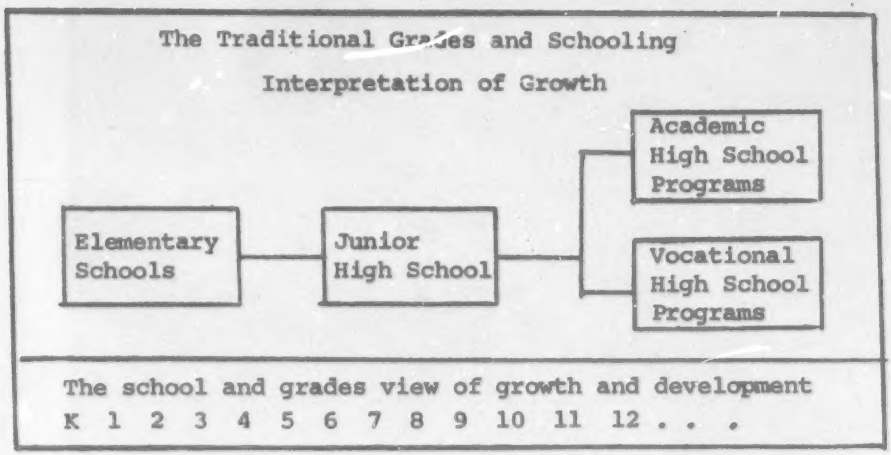
A. An Overview of Issues

Figure 6 provides a starting point from which issues might be defined. It assumes that the growth and development of the individual is the central focus for educational efforts. It seems erroneous, even unfair, to listen to a career educationist claim that education should adopt the growth and development of the individual as its central focus, and from this infer that traditional education is not concerned with such matters. Instead, it seems more justifiable to assume that growth and development is the central concern of all.

Then, what is the controversy all about? Obviously, one can focus on individual growth and development, and still derive different interpretations of what is involved in the process. This difference in interpretation is what Figure 6 is meant to portray. At the top, a block of elements suggests that traditional education has interpreted and responded to individual development in terms of grades, programs and schools. It is by moving through such units that the child is to grow. The bottom block represents the yet-to-be specified interpretation which emerges in career education.

Figure 6

Contrasting Major Issues in Occupational Education


The Traditional Grades and Schooling
Interpretation of Growth
Academic High School Programs
Elementary Schools
Junior High School
Vocational High School Programs
The school and grades view of growth and development
K 1 2 3 4 5 6 7 8 9 10 11 12 . . .

GROWTH AND DEVELOPMENT OF THE INDIVIDUAL

A Central Perspective

The as yet unspecified

Interpretation of Career Education

Unfortunately, the most critical problem facing both traditional and career education, is that our understanding of what takes place in the growth and development of the individual is grossly inadequate. If this is so, the question naturally arises, by what right does the advocate of career education claim that traditional education should adopt his perspective of vocational development? Does he have superior knowledge of the processes of development? What does he mean by vocational development, and how does this differ from growth and development in general?

This is an important question, particularly when we consider how career education developed. We have started with the straightforward problem of vocational education and training people in job skills. This in turn led to the discovery that vocational success depended on a broader set of tasks implied in the process of achieving vocational maturity. But examination of vocational maturity and development, in turn, shows that the entire structure depends on a general theory of growth and development encompassing such matters as self-identity, attitudes and values, interests and abilities, and indeed, the entire range of variables which traditional education has addressed in theory, if not in practice.

While the focus on growth and development provides the primary vehicle for reconciling the differences between career and traditional education, it also reveals a fundamental conflict. Career education is more than an attempt to fill in the gap of economic objectives left by traditional education. Most fundamentally, it is a reform movement. Reform may be denied by any particular advocate of career education. But reform becomes a logical and actual necessity when it is realized that to accomplish

career education, it is necessary to intrude on the methods used by traditional education.

Further, this intrusion is a global one, with implications both for curriculum design and administrative organization. But why should curriculum and administrative issues be separated? What is the relationship between them? An idealized view would hold that from an understanding of growth and development, a structure of curriculum emerges. From the professional educator's view of curriculum requirements, an administrative structure is built up to support it. Unfortunately, (or perhaps fortunately), the idealized view does not hold true. The practice of educational administration is dominated by concerns that the educator often does not consider: the availability of resources, the problems of taxation, the questions of cost effectiveness, accountability, planning and control. While these are valid and necessary concerns, they have the potential for facilitating the educational process or constraining it. Consequently, it is important to examine the curricular and administrative consequences of the Regent's position that the educational system must be redesigned around a developmental perspective, and conversely, the potential barriers which existing practices pose to such redesign.

The starting point, however, lies in more specific interpretations of growth and development. What room is there for agreement within these interpretations, and what areas pose the greatest barriers?

B. Major Issues in Growth and Development

Growth and development is not a homogeneous concept, and unless a framework is built, within which diverse claims and issues can be pictured, the controversies are difficult to understand. While there is no existing theory of growth that attracts universal acceptance, or that clearly points to changes that must be made, the problem has been fairly well conceptualized so that the overall nature of issues can be defined.

Any adequate theory of growth and development must contain at least two and perhaps three aspects. First, it must establish some long range continuum which describes the developmental stages, or progress of the individual, as he grows from birth to some unspecified set of accomplishments which mark the mature and successful individual. The tentative continuum established in the CCEM, (Figure 2), and adopted by the Regents, provides one such perspective. In contrast, the general perspective of traditional education seems to be that of structured grade levels, within which there is a series of content-oriented program of instruction.

The second aspect of a developmental theory must describe the aspects of individual functioning that are involved in the process of growing. For purposes of discussion, we can assume that these can be described as cognitive, affective and psychomotor. The cognitive refers to intellectual processes involved in achieving knowledge; the affective refers to problems of emotion, values, and character building; and the psychomotor refers to the problems of translating education into practice.

The third aspect of growth and development is not so clear cut. It involves a specification of outcomes, or answers to the question, "what will it mean to say that a person has grown?" Part of this problem is

the issue of whether vocational development, by itself, can adequately encompass the other aspects of development. Also, is it possible or desirable to conjure up some set of specifications which all people will be expected to meet, or that can be used to specify what a fully developed person will look like?

The End-Goals Question

The most obvious, and yet controversial, claim of career education is that the end-goal of vocational maturity can serve as a unifying theme for all of education. This claim addresses the last aspect of a theory of growth and development, i.e., is it possible or desirable to specify end-goals or outcomes to the entire process? The advocates of career education have not helped clarify what is involved. Two trends or types of emphasis were developed in career education. In the early stages of conceptualization, contributors to the theory of career education took a broad view of careers in which the central problem was the individual finding a place in our society. A "career" in these terms could be paid employment. It could also be homemaking, volunteer work, becoming an isolated philosopher, or any other endeavor which had the characteristics of making a contribution to society and simultaneously finding self fulfillment in that contribution.

On the other hand, career educators were faced with very pressing problems in the world of work, such as high unemployment (especially among disadvantaged groups), worker dissatisfaction, both white and blue collar blues, a declining rate of growth in productivity and even examples of industrial sabotage. These problems were immediate and tended to force an emphasis on the traditional vocational aspects of career education.

Yet, without distinguishing between the broad and narrow views most advocates consistently claimed that career education and the problem of vocational development could serve as the unifying theme to unite all education. Obviously, the more vocational development stresses specific outcomes in terms of paid employment, the more resistance can be expected

from those who see growth and development leading to outcomes which have little to do with paid employment. Indeed, in the overall context of education, it seems reasonable that the more career education is defined in specific vocational terms alone, the less validity there is to the claim that it can serve as a basis for redesign of the entire system. This negative possibility, however, should not obscure the fact that there is validity to career education in the broad view. The notion of career education as the development of the person, the making of a commitment to some sort of social contribution, and finding satisfaction and personal fulfillment in that contribution comes close to addressing the primary purpose of education in our society.

Conceptually then, there should be no dispute between career education and education in general, as long as both take a broad view of individual growth and development in society. Disputes arise when either side takes a narrow view of what is involved in that process, Career educators have demonstrated that they can narrowly conceive the problem in terms of employment. What is not so obvious is that equally narrow views of the process have been part of the traditional educator's philosophy as well. For example, a criticism was made in the Research for Better Schools (RBS) project that traditional education has failed to address affective and experiential aspects of growth. This is a wide spread criticism which will be discussed later.

Stages and The Developmental Continuum

Both academic and career educators would agree that learning is a process of growing and that some kind of continuum is involved. Despite the tendency to equate education with the years of schooling, it is a widely accepted dictum of educators that learning is a life long process. People will continue to learn after formal schooling is finished or they will stagnate; and the goal of education has been to produce self-directed, continuing learners. Career education simply adds to this conception, the realities of a changing, technological society; and the fact that most workers today do not engage in one career, but are likely to experience several career changes over their lifetime. Therefore, it is argued, the provision of adult educational opportunities deserve greater emphasis than previously given.

The disputes arise when one asks, how should this developmental continuum be conceptualized and used as a guide for organizing the educational system? The literature of traditional education seldom offers any formal interpretation of the developmental continuum. But an examination of the current structure and methodology of education suggests that such an interpretation has not only been made, but has become well established in terms of age and grade. The child is conceived as moving through a series of grades: kindergarten through high school; and then on to grades 13-16 in college. In this framework, the unit of growth is the study of a course, and the student presents evidence of growth by passing an end-of-course examination. When a sufficient number of courses are passed, he moves on to the next grade, until he finally earns the distinction of "having an education."

The obvious fallacies in this conceptualization have been noted by traditional educators and critics long before Marland coined the term "career education". Criticisms sometimes are aimed at removing artificial and unnecessary barriers which the grade level system imposes on students; and at other times on constructive suggestions as to how it might be reorganized. From such criticisms, open schools, free schools, non-graded schools and alternative schools have emerged. But despite the variation in approaches, one central theme occurs in all the criticisms: "To offer quality instruction, the instructional program must be personal, flexible, and without artificial limits" (Beggs and Buffie, 1967, p. xi). But too often, effort is directed toward removing the artificial barriers without a firm conceptualization of an alternative framework around which the educational system can be flexibly organized.

Career educators who advocate the adoption of the developmental framework, most often use the concept of the developmental task as the focus for organization. This is not new with career education, but was originally proposed in 1948 by Havighurst who claims:

> The developmental task concept occupies middle ground between the two opposed theories of education; the theory of freedom - that the child will develop best if left as free as possible; and the theory of constraint - that the child must learn to become a worthy, responsible adult through restraints imposed by his society (1972, p. vi).

Havighurst, of course, is grappling with more fundamental conflicts in the theory of development which will be considered next. But his solution is a pragmatic one, and this seems important for placing the controversy between traditional and career education in perspective.

The developmental task concept, by itself, is not a theory of development. It is a proposed framework for organizing schooling when

knowledge is incomplete about what truly is involved in the process of growth and development. What Havighurst is saying, is that even though we don't have enough knowledge to reconcile the conflicts between the freedom and constraint theories of education, it is nonetheless possible to overcome the deficiencies of the traditional grade and course perspective by specifying the tasks which a person must meet in the process of achieving maturity; and then organizing our efforts to insure that the tasks are indeed accomplished.

In place of grades and structured programs, the developmental framework attempts to determine the major stages involved in growth and development and within those stages, define the nature of the tasks involved. Figure 2 reflected the stages of vocational development as conceived by the CCEM; and Figure 3 shows how tasks or objectives can be specified within each stage. Nonetheless, a critical problem emerges from this perspective which has yet to be resolved: to what degree does adoption of the developmental perspective require change in the existing system?

Many career educators have been hesitant to face up to the reform demands of the career development perspective. They have suggested that the developmental tasks as described by the CCEM can be adopted through a process of infusion. This was illustrated in Figure 4. It anticipates that the current structure of departmentalized courses can be left unchanged, and that the tasks of vocational development can be "infused" by showing students how current course content is relevant to their career goals. It is significant that efforts at infusion have been most successful at the elementary school level, and particularly in those programs in which the teacher works with the same students all day. Attempts to infuse

developmental objectives at the senior high school level have consistently met with failure. In general, the greater the degree of departmentalization and specialization in course structure, the less successful are attempts to "infuse" career education.

There is a tendency for the high school teacher, in particular, to view his role and the objective of his program as "learning physics", or chemistry, or mathematics, and so forth. While the desirability of relating course content to life goals such as vocation is given lip service, the "structured program" orientation tends to dominate, even to an outright rejection of vocational development goals as being a function of the school.

The failure of infusion in departmentalized settings is caused by a variety of factors. On the one hand, there is the intellectual tradition in higher education which encourages the teacher to make his primary commitment to the discipline which he teaches. One studies science because he is becoming a scientist, and consequently the first task of the teacher and student is to master the subject matter of science. Second, this tendency to specialization is reinforced by an administrative structure which organizes educative processes around standardized courses, and holds both teachers and students accountable for success in passing final examinations.

A more critical cause of the failure is simply that infusion of developmental tasks is unwieldy in classroom settingswhere students are grouped by their grade and course selections, rather than by their stage of development. Successful accomplishment of a developmental program of education requires, as a necessary condition, the capability to respond

to the unique differences of every child. In the departmentalized setting of the high school, such flexibility is extremely difficult to achieve. The academic teacher must not only allocate time to the affective and psychomotor objectives implied by vocational development, but he must do so in a class period of 43 minute per day in which 20-30 students with highly diverse needs compete for his attention.

It can be seen from this discussion, that the developmental perspective would remain an issue for education independently of any move to implement career education. First, critics will continue to point to the inadequacy of the present system to deal with the developmental nature of learning. Second, even if critics do not claim a superior knowledge of developmental processes (relative to that governing traditional education), they can with justification advocate the adoption of a developmental task framework of organization as being inherently superior to that of grades and structured courses. However, even greater justification would exist, if it can be demonstrated that such superior knowledge of developmental processes is encompassed in the framework being proposed.

There is good reason to believe that the foundations of career education are based on such superior knowledge, albeit it is still far from perfect. Much of the theoretical foundation for career education has been derived from the research efforts of the 1950's and 1960's in vocational development and guidance. Although specifically aimed at problems of vocation, these theorists by necessity had to draw on the more general research available in the field of developmental psychology. Super (1951) and Super, Starishevski, Matlin and Jordaan (1963) drew upon ego and self concept theory to propose that the process of career development was

essentially a process of the person defining a concept of self and implementing that concept in the world of work. Charlotte Buhler's (1961) conceptualization of life stages and goals added additional insights. Another group of theorists focused on career development as a set of decision processes (Tiedeman 1961; Katz, 1963; Hilton, 1962, Gelatt, 1962, and others). Anne Roe (1956, 1957) analyzed the influences of early childhood on occupational choice. Other approaches were taken by Bordin, Lachman and Sigel (1963) and Ginsberg, Ginsburg, Axelrad and Herma (1951).

New data on developmental processes has also been pursued by progressive elements of the academic community, independent of any concern with career education. The developmental frameworks of Erikson (1968) and particularly the work of Piaget, have been used by some educators to restructure many existing curriculums. However, this work has not yet received the widespread attention it deserves, and actual change is limited to a few experimental settings and demonstration projects, sometimes in "alternative schools." One can assert with confidence that these will continue whether or not career education lives on or fades away.

Clearly, the most fundamental aspect of the developmental framework is that it requires reform of the present system if greater flexibility and responsiveness is to be achieved. In discussion of the New York State Plan, it was questioned whether the identification of disadvantaged groups really accomplished the reorientation from occupational categories to the needs of people. The same question occurs in the comparison of the grade-program structure of existing schooling, and the concept of the developmental continuum. Should we be evaluating educational progress in terms of the number of students who pass English I and move on to the 10th grade?

Or should we be asking: How many children cannot read? How many lack skills in elementary arithemetic? and so on. To address these questions is to perceive the need for a reorganization of education as a whole.

Aspects of Personal Growth

The third dimension of the growth problem raises such issues as: what aspects of the individual do the growing and developing? Is it possible to deal with different aspects separately or must we have an education that considers the integrated nature of human behavior? And, what effect does method have on promoting or inhibiting growth? It is within this set of questions that the most controversy is likely to occur, and where our ignorance becomes overwhelming. In reference to method, battles still rage over the theories of freedom and constraint, between the stimulus-response model of the behaviorist and the self-actualization models of the personologists.

Again, there is a majority consensus in education regarding the principle that learning involves the whole person. But again, dispute arises when its implications for change are realized.

Two frameworks help clarify the nature of the problem. The CCEM model (Figure 3) on the elements of career education is one way of defining the central elements involved in personal development. Another framework is that provided by Bloom, Krathwohl, Massia, et. al., (1956, 1964) in their development of a taxonomy of educational objectives. They divide educational objectives into three domains: the cognitive, affective and psychomotor.

Two facts seem well validated and have become part of the career education rationale. The first is a unanimous agreement that the existing educational system has become predominately cognitively oriented and inadequately deals with affective and psychomotor education. The second is that vocational development is virtually impossible without intensive

efforts in affective and psychomotor domains of education. Indeed, many educators would agree that the argument applies to growth in general.

The concern of career educators with the affective and psychomotor aspects of growth, are clearly demonstrated in the RBS experience-based model. There, specific time blocks were set aside for guidance activities, and for community based experiences. Such concerns are obvious in almost every career education model that addresses the problems of career development in any depth. But such concerns obviously involve a tradeoff with the cognitive concerns of education. A student has just so many hours available in the day. Hours spent on guidance and affective education cut into the hours available for physics and chemistry. An important question obviously deals with how great a sacrifice in cognitive objectives must be made, and how willing the traditional education community is to pay the price?

Career educators have been hopeful that there is no price to be paid. They anticipate that once the student begins to establish his sense of identity and makes commitments to those areas of endeavor that are of concern to him, that the motivation for learning will increase to such an extent, that improved efficiency and effectiveness in cognitive learning will result as well. As yet, this hope has not been conclusively demonstrated. The RBS evaluation is probably representative of findings in other projects. In general, attention to affective and psychomotor aspects of education does not deteriorate cognitive learning. Cognitive scores show a slight gain over control groups in traditional schools, even though that gain is not statistically significant. Whether such results would be obtained universally, has not yet been established. But

even a slight deterioration in cognitive performance might well be acceptable in view of the substantial gains to be achieved in the other areas.

C. Need for Affective and Functional Education

Affective and experiential aspects of education are necessary components in a successful vocational development program. But again, the reform aspects of career education shown forth in that critical issues in education as a whole are being addressed. If career education were to disappear from the scene tomorrow, pressures in our society are building up which would continue to stress the need for expanding education into the areas of affective and experimential development.

The need for affective education is clearly seen in the increasing crime rate. Youth crime today involves more than the vandalism, youth gangs, and juvenile deliquency that have been with us for decades. Early teenagers are largely responsible for the increased statistics on robbery, murder, rape and more serious crimes. In addition, it is clear that we have with us a new brand of criminal, the average man. Research by Zimbardo (1969, 1970), Duval and Wicklund (1972), Buss and Scheier (1976), Fenigstein (1974), Fenigstein, Scheier and Buss (1975), are but the latest experimental sets of evidence to validate concepts which were much earlier proposed by Rotter (1954), Maslow (1954), Rogers (1956) and even earlier, James (1898). In short, there is a values crisis in our society, and at the root of that crisis in the failure of our society to help the individual develop a sense of identity, purpose, commitment and participation in his society.

Indeed, this deficiency in affective education is highly related to the need for experientally based education. Coleman (1972) summarized the case very well in pointing out that our society, just a short 50 years

ago, was experience rich and information poor, while the society of today is information rich and experience poor. This can be misinterpreted of course. The availability of drugs, alcohol, tobacco and free sex to our young people might lead one to claim our society is too experience rich. But Coleman was referring to the availability of experiences that would provide a sense of participation and contribution to society. The days in which young people work with the parents on the farm or in small businesses are essentially gone. Instead, the young person of today will spend the first 18-23 years of his life in schools. During most of those years, well-meaning child labor laws and a restructured labor market prevents him from finding part time employment. Technology has minimized the amount of work available around the home, so even when parents and child see the need for his participation in such tasks, the child's role is a limited one and can too easily be dispensed with.

Parnell (1973), one of the early contributors to career education theory, reemphasized Coleman's point:

> Today we live in a different society - an information rich society. In fact, children acquire so much information from television that now many suffer from too much data. They are not emotionally equipped to assimilate or interpret all that they see and hear. They have not had the personal experience that provides realistic perspective... They see a president shot before their eyes and brutal scenes of wartime combat, but they may never have seen a dead rabbit or suffered the loss of a pet dog. When they enter the classroom they are confronted with even more information, often as ambiguous and generally less interesting than that on television.

To what degree can career and traditional education cooperate in making greater provisions for affective and psychomotor aspects of development? In terms of lip-service, it seems that a majority consensus

can be obtained that such provisions should be made. In practice, however, once the implications for change become apparent, a great deal of resistance is likely to be encountered. Such implications can be inferred merely from the career education projects that have been attempted.

Note the sharp contrasts in the design of the RBS experience based project with that of traditional practice. Not only were approximately equal time allocations made between cognitive, affective, and psychomotor or experiential activities; but each aspect of the program design showed methods that were quite different from traditional programs. The cognitive learning took place in learning resource centers rather than in a series of classroom oriented courses. The affective learning required the services of guidance counselors who were trained in such matters as development of self concept, exploration of values, and processes of decision making.

The average teacher has seldom been trained in these essential aspects of affective learning. The experiential learning experiences took place outside of the school itself, and involved rather complex planning and coordination of efforts between the school and community. There is no provision in the current organization for such activities.

Even more critical was the fact that the RBS model took the emerging interests and needs of the student as the focal point for organizing the system. Knowledge of developmental stages and tasks permit one to anticipate the type of experiences and learnings that each individual will encounter. But the exact content and timing of those experiences depends on the student's self exploration, and the flexibility of the educational system to respond to various levels of student development or readiness.

Consequently, most program activities were designed on an individualized basis as the demand from students emerged.

It will be later argued that no principle other than individualization is possible, if the goals of the self-directed learner and vocational maturity are to be realized. If the essence of the developmental process is to build the capacity for making intelligent choices, only a system which makes student choice possible can provide the experiences needed. Similarly, what could be more inconsistent than to build the capacity for refined choice based on knowledge of one's unique differences and abilities, and then structure a program which offers only those limited alternatives available within predefined grade levels, course offerings, and classrooms governed by an economic student-teacher ratio?

Clearly, drastic and sweeping changes are required if any progress is to be made in either career education or the fundamental problems which pervade all education. Part of the changes clearly involve a redesign of curriculum, and the policies which structure and govern our schools. But no changes in curriculum can occur without comparable changes in the philosophy and practice of school administration. And this leads to the next aspect of the problem.

D. Problems in Curriculum and Administration.

A review of the structure and organization of education in New York State, and particularly the structure of the New York State Plan for Occupational Education, Fiscal Year 1977 should indicate that the basic orientation of the system is as incompatible with the goals of Regents Position Paper #11, as the difference between the RBS project and the average high school. While career education requires a community, even a regional, perspective of the educational process, the New York State policy on governance partitions communities into school districts which at times cross political subdivisions and consistently separates the suburban district from the vast urban resources adjacent to it. While career education requires a highly flexible system responsive to the developing interests and decisions of students, the SED is structured around traditional occupational and academic disciplines comparable to the course offerings available in schools. While career education encourages flexibility so that differing rates of growth and development can be accomodated, the Regents continue a policy of grade levels, regents examinations, and pass-or-fail outcomes from each experience. And when the planning perspectives of the SED are examined, we find that the predominate influence on such plans is the existing categories of academic and occupational programs with only lip service and token funds being allocated to efforts which can develop the basic capability and flexibility needed to address the issues of career education.

This list of inconsistencies between existing conditions and the proposals of career education is not intended as an attack on the efforts of state level personnel. It is intended to delineate the problem areas

which must be addressed if Regent's Position Paper #11 is to be implemented. Further, it assumes that constructing a flexible educational system that meets the developmental needs of the state's citizens, is the overriding consideration in all state efforts. Obviously SED personnel do not operate in such an idealized environment. In the formal policy on governance, the typical SED function is limited to that of establishing minimum standards, performing a regulatory function, and supporting autonomous school districts.

Leadership vs. regulation in SED

Everyone expects a state-level function to exercise leadership, but SED personnel are limited both by the lack of organizational vehicles for exercising leadership, and the fact that self-interest groups really resist any leadership effort which implies change. This is indicated by the typical discussion which any investigator is likely to have with personnel in the Bureau of Occupational Education. Suppose one approaches a member of the bureau with a concern for inadequacies in the present system. The discussion turns to the problem which exist and the alternative ways of correcting the deficiency. Typically, the number of the SED staff is well informed and shows an active concern. The outsider begins to anticipate the possibility of corrective action. The question is posed: "Well, why don't we do something about it?" The enthusiastic interest in the eye of the SED staffer, is replaced by a cloud of frustration and even defensive hurt. His explanations of conditions which prevent action sound as if he is defending the system and even himself. Ultimately, the conversation ends with his admission: "We really can't do anything about it, you know. We can only suggest."

When a bureaucratic environment leads to this type of discussion with ever increasing frequency, it is time to search out the critical issues which would be involved in any attempt at change. Clearly, the suggestion that a developmental framework be adopted for redesign of the system requires a change in the basic orientation of SED. If existing conditions may be taken as evidence, it seems reasonable that the regulatory orientation views the process of education and learning in terms of administrative units such as districts, schools and programs. A leadership orientation would view the educational system in terms of the learning process itself; the tasks and problems encountered by students in learning, and the steps needed to accomplish those tasks. The standard of achievement would not be a well regulated system; it would be an effective system. And of course, a critical question persists as to how the two criteria can be made compatible.

Administrative Constraints on Curriculum

This contrast between a developmental process and administrative-unit orientation in SED, highlights the problem of distinguishing between curricular and administrative issues in career education. It is often assumed that the existing system of education was purposely designed around a thoughtful analysis of what goes on in the process of learning, i.e., that the design of educational systems would begin with the process of curriculum planning. Inlow supports this contention by stating: "...curriculum will carry the connotation of the planned composite effort of any school to guide pupil learning toward predetermined outcomes." (1966)

But this is true only in a theoretical sense. Textbooks on curriculum planning discuss alternative starting points of design which are call curricular "approaches" or "foci". Saylor and Alexander list such foci as "specific competencies," "disciplines/subjects," "social activities and problems," "process skills," and individual needs and interests," (1974, Chapter 5). In the perspective of Figure 5 and the previous discussion on the different aspects of growth and development, it is clear that each of these foci is a selection of one particular aspect of the developmental process which the curriculum planner hopes to use as a framework for organizing the educational effort. Regardless of the different perspectives that are used, there is the common inference that the process of learning itself provides the foundation for the educational system that will emerge.

In practice, however, curriculum design begins with quite different parameters and assumptions. They exist in legislative and administrative

requirements that: (1) all children up to the age of 16 will be physically present in buildings called schools; (2) that all children will be under adult surveillance and control during such periods of attendance; (3) that students and teachers will be assigned to classrooms in an economic student-teacher ratio; (4) that all children will receive minimally required units of instruction, commonly called courses or programs; (5) that each course will meet minimum standards in terms of the actual number of hours of instruction provided; and (6) that evidence of accomplishment will be presented in the form of successful completion of an end-of-course or Regents' examination.

It is only after these regulatory requirements are considered, that it is possible to begin the process of curriculum design. Obviously, such requirements can facilitate learning or create conditions which constrain it. The constraints become particularly apparent at the high school and college levels where teachers and curriculum are segmented by practices of administrative organization and academic tradition, into specialized departments such as English, mathematics, industrial arts and so forth.

In the high school setting, the curriculum planner and teacher are commonly alloted five periods a week, consisting of 43-50 minutes each. In this setting, the curriculum planning process consists of selecting and organizing units of instruction, most often cognitive concepts and topics which fit conditions.

Because the teacher is faced with from 20 to 40 students in the room, still unorganized from passing through crowded hallways within a three minute time limit, distracted by the social interaction of meeting with

friends during passing, the immediate concern of the teacher is not curriculum and education, but establishing control, gaining attention, and taking attendance to insure that some students have not chosen to arrive late or skip class entirely. Only after these concerns have been considered, is it possible to turn to that which is considered curriculum and learning.

In such a setting, the list of alternative foci which could be used for curricular design, become limited to those which are compatible with the conditions under which instruction will be offered. Perhaps this explains the predominately cognitive emphasis which has developed in public schools. The curriculum foci on disciplines and subject matter is most compatible with standardization and the existing administrative structure. Conversely, it is extremely difficult to adopt any other foci such as community based learning experiences, which disrupts the student's schedule of attending five classes per day.

As long as the role of schools is narrowly conceived as a cognitive or intellectual function, there can be a meeting ground between the professional standards of education and administrative practice. The focus on "knowledge" lends itself to a division into topics that can be adapted to 43-50 minute periods. Teacher training stresses knowledge preparation rather that the psychology of affective development. And the expectations of parents and Regents is a reasonable one - that children will be able to pass examinations which demonstrate their mastery of knowledge or content. Unfortunately, the system of grading and examinations can at times dominate the entire process as teachers "teach the exam" and students ask, "what do I need to pass the exam?" In Regents' courses, the teacher

can ignore exams only at the risk of being judged incompetent or ineffective. Passing the exam is the decisive criteria of both student and teacher effectiveness. Despite some misgivings, the majority of teachers not only accept these parameters as reasonable, but even defend them. After all, if a student is not going to school to acquire knowledge, why does one attend? Isn't knowledge acquisition the entire purpose of schooling, and haven't teachers been trained precisely to accomplish this end?

E. Administrative Philosophy versus Educational Philosophy

Obviously, administrative rules and regulations can prevent curriculum planners from adopting many practices which educational theory and research indicates are desirable. But it does not necessarily follow that administrative philosophy is wrong, and educational theory should dominate in decision making. A common perspective for both curriculum planners and administratrator s is needed, i.e., the actual processes involved in learning, growth and development. Yet, a common perspective is possible only if it is compatible with legitimate administrative concerns which address factors other than the educational process itself.

As important as education may be, it is nonetheless, only one of many desirable endeavors of society. Hence, one set of legitimate administrative concerns is derived from consideration of the economic, social and political conditions from which support of the educational system is derived. Because of such concerns, it is legitimate that the standards of administrative excellence be somewhat different from the standards of educational excellence, albeit, they cannot be detrimental to each other.

The existence of differing standards for professional education and professional management is important in assessing the issues in adoption of career education. The previous discussion has identified critical issues involved in changing the philosophy of educators. Now the question arises as to whether fundamental orientations require change in the field of administration.

Certainly, the orientation of educational administration is partly derived from a conception of the educational process. But it is also

derived from the theories and philosophy of effective management which has emerged in our society. Assume for now, that both educators and administrators agree that the educational process should be redesigned with the developmental perspective as its major focus. What conflicts with management theory and standards would be encountered? To answer this question, it is necessary to examine the source of management theory and the fundamental concepts which have influenced our educational system.

To a large extent, the perspective of educational administration is derived from the constantly developing discipline of industrial and scientific management. There is a conflict here that strikes to the heart of educational design. Since Frederick Taylor first enunciated principles of scientific management, industrial managers have applied them to the task of mass production. Complex tasks are broken down into simpler tasks, so that labor can be specialized and training facilitated. But the key element which makes such specialization and mass production possible, is that of standardization.

In the world of production lines, automated equipment, standardized products and quality control, standardization of processes and outcomes makes sense, and has been quite successful in making increased production possible. But in the world of education, where the very philosophy and success of the endeavor focuses on maximizing development of uniquely different capabilities, the notion of standardization is both contradictory and defeating. Yet, the influence of industrialization and standardization permeate the entire administrative and educative structure of our society.

To resolve this conflict, it seems necessary to distinguish between

legitimate functions of management, and the prevailing practice of standardization. Textbooks universally describe the functions of management in such terms as planning, organization, staffing, coordination and control. Such functions seem necessary to the operation of any social endeavor. Indeed, one might successfully argue that they are basic to personal effectiveness. Whatever conflicts exist between educational theory and management theory, it is obvious that it is not a dispute over these essential functions. It is a rare individual who would be happy in an unorganized and poorly coordinated enterprise, and would not advocate a greater emphasis on proper planning and control.

What must be examined is whether or not standardization is essential to effective management, and/or constitutes a legitimate concern of management. It is too often argued that if we do not "have standards" we cannot plan, organize, or maintain control. But "having standards" is not equivalent to standardization; and standardization is only one technique for achieving the ends toward which planning, organization and control are directed. Standardization seems a suitable technique for organizing machine-processes which produce material goods. Its inadequacies for organizing human-processes are becoming increasingly clear, not only in education, but in the world of work itself (Maslow, 1965; Herzberg, 1966; HEW, 1972).

Subtle Manifestations of Standardization

Standardization operates subtlely, and it seems important to note its many influences on problems concerning education. It is easy to see that standardization is behind the structuring of job descriptions and occupational categories in the labor market, and how this leads to a similar organization in vocational education. It is equally obvious that the same techniques have been used elsewhere; in standardizing academic disciplines; a standardized curriculum or course content; a standard for student-teacher ratios; a standard for course examinations and so forth.

Standardization also operates in funding formulas and our criteria of equality or equity. Equality of educational opportunity, for example, has been described in terms of an equal range of course offerings. It has also been described in terms of equal expenditures on education between districts and regions. In this sense, the concepts develop from standardization-to-equality-to-sameness. But a problem arises simply because reality and people do not reflect sameness, but diversity, and the issue is one of finding a management technique that permits planning, organization and control of diversity without imposing on it some preconceived method of making them appear the same.

In educational theory, standardization influences the concept of structure. The argument is that students require "structure" and the implication is that structure is obtained through standardization of educational processes. But just as standardization is not equivalent to organization, and the other tasks of management, it is also not equivalent to the psychological processes which organize and structure thought,

personality and the conduct of life. Indeed, a study of psychology would reveal that the individual is capable of using diverse methods of organization most suited to the task at hand. Standards are useful at times in social interaction, but they can also be dysfunctional.

The Regents have called for a restructuring of the educational system around the developmental continuum of the student, and the use of individualization techniques. Clearly, to achieve such ends, the traditional use of standardization must be greatly modified if not abandoned altogether. In its place, a new philosophy of management must be found which optimize the realities and benefits of diversity (particularly in human resources), without sacrificing the functions of planning, organization and control. The roots of this new framework is most likely to be found in the psychological processes of individual functioning and the ways they can be accomodated in social interaction.

VIII. The Strategy of Individualization versus Standardized Program Expansion

The term individualization is typically found in the lexicon of the educational theorist, rather than that of the administrator. Its justification rests on the existence of individual differences in students which traditional education has been unable to accommodate. But the term is equally important to administrative theory, for it addresses flexibility and the ability to manage diversity. It is now argued that individualization may be one of those pragmatic concepts comparable to the developmental task. While it does not constitute a theory in itself, it occupies a critical place in planning educational systems.

Individualization is most often justified by reference to the needs of students. But it should be clear that the challenge of individualization is directed to the educational system, not the student. Diversity and the unique needs of the individual may provide the rationale, or justification for individualization, but the concept ultimately means that the educator himself must become more flexible, more adaptable, and more capable of managing the diversity which surrounds him. In this sense, individualization is to be distinguished from the psychological process of individuation through which the student achieves his unique character and personality. A teacher may ask a student to address tasks such as identity and value clarification which are essential to his individuation, but he does not ask the student to individualize. It is the teacher and the educational system which must individualize, and this necessarily involves increased flexibility.

Unfortunately, individualization is a poorly defined term. Gibbons

(1971) surveyed programs which claimed to be "individualized" and found a range between highly structured programs in which students were individually tutored to open schools in which students participated in making decisions about what was to be learned. Individualization can derive its meaning either from the nature of individual differences to which it seeks to adapt, or from the varieties of ways in which a system or teacher becomes more flexible. It is this latter set of characteristics which seem most relevant to an administrator's view of the matter, and which will be discussed in this section.

Despite its potential ambiguity, the concept is not only viable, but a practical necessity if any progress is to be made toward the goals of Position Paper #11. There is no question of the need for individualization from an educator's point of view. Failure to deal with individual differences means failure to maximize the unique potential of the individual. What is not so clear, is the importance of individualization to the administrator as he concerns himself with such criteria as: system effectiveness in achieving learning outcomes; ability to respond to changing conditions in society and the world of work; the ability to increase system capacity to meet unsatisfied demand; and cost effectiveness. The question of system effectiveness, in terms of learning outcomes, is difficult to discuss without reference to problems of individual differences, growth and development. But the other administrative criteria can be addressed by examining the system's capacity to respond when it uses a strategy of individualization versus a strategy of standardized program expansion.

A. The Inadequacy of the Standardized Program Strategy

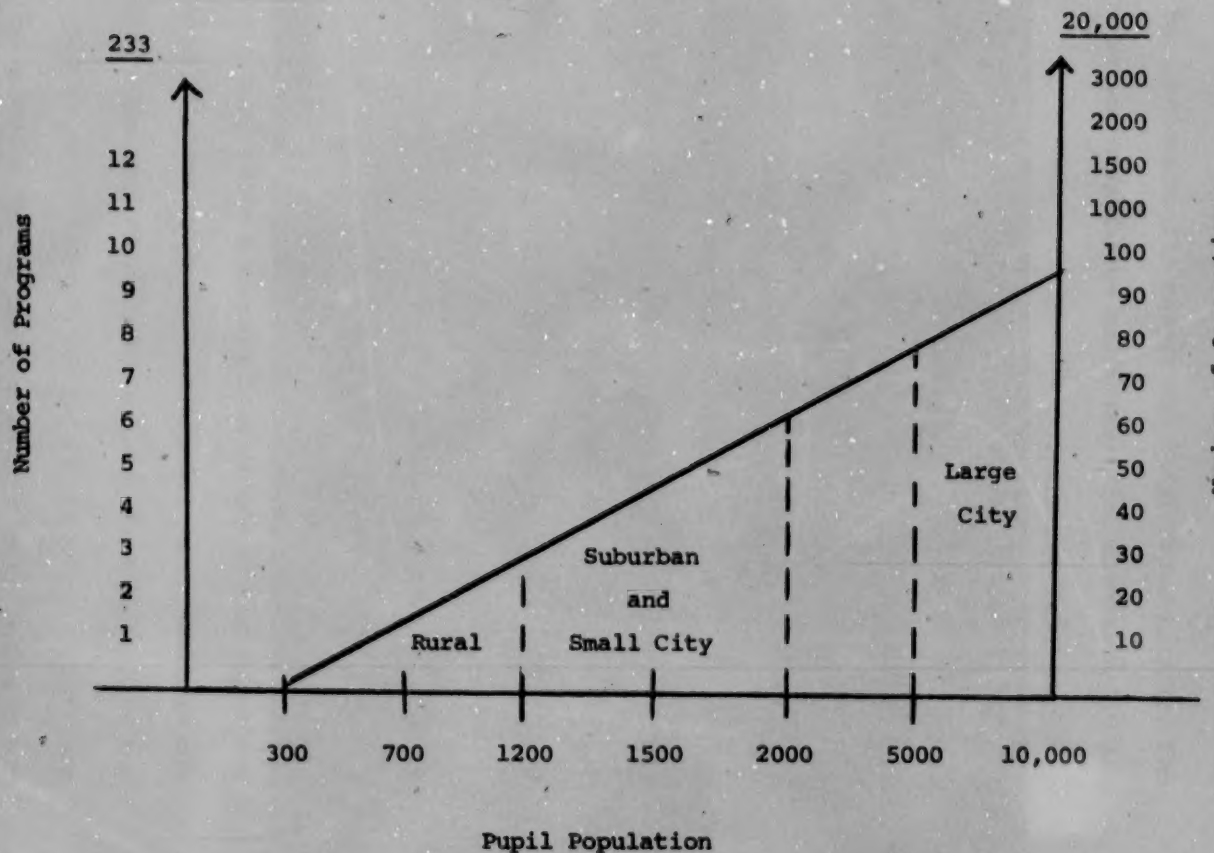
The intent of this section is to demonstrate that the current standardized units of administration and response can never meet the goals and criteria established for system effectiveness, and consequently, individualization and flexibility must become one of the top priorities in educational planning.

Since the early 1900's, industrial management concepts of standardization, specialization and economy of scale have led educational administrators down the path of consolidating school districts so that a greater variety of course offerings would be available to students. But this same trend has rigidified the system so that it cannot adequately respond to the individual differences of students, or to changing conditions in the environment. Obviously, there are differences between building large factories to produce mass production items, and creating educational factories for servicing people in widely differing communities.

Such criticisms flow easily from the perspective of the 1970's when computers, communication networks, cable television, video tape, microphotography retrieval systems, and a host of other devices, suggest alternatives to the traditional organization of instruction which were not available to the educational planner a short twenty five years ago. While the application of industrial management concepts have created structures and attitudes which require changing in this era, they represented substantial improvement during the decades in which they were conceived. The critical tone of this analysis is not intended as an attack on the talented administration of the educational system, but on the critical concepts which lie hidden and entrenched so as to resist consideration

Figure 7

System Capacity Using A Strategy of
Standardized Program Expansion



of changes that are necessary today.

Figure 7 attempts to portray the problems of building a system of vocational education which meets manpower needs and provides equality of opportunity for students. The two vertical axes reflect the traditional problem of vocational education, i. e., to provide students with access to vocational programs which can prepare them for the wide variety of career opportunities available in the world of work. The left hand vertical axis measures the number of vocational programs available, and the right hand vertical axis represents the number of job opportunities available in our economy. These job opportunities also represent the possible range of student choice and the envisioned capacity of the system. The horizontal axis represents student population, which is a critical component in the school district consolidation argument.

It should be noted that student population and the variety of occupations are the "givens" in our environment. They are simply there and there is not much that the educational system can do about it. The left hand vertical axis represents the system's unit of response, i. e., "the program" or course offering. This variable is completely under the control of the educational planner. Under an individualized, and flexible system of response, there is no conceptual reason why <u>any</u> single student, <u>anywhere</u> in the state, cannot select any one of 20,000 occupations, and be trained for it. Unfortunately, the educational system is not able to respond to this conception. Why not?

The first reason is that it is locked into the "program" unit of response; and underlying that, is the notion that learning cannot take place without the physical presence of a teacher supervising the learning

process. The practical effects of these notions is to claim that no student can learn an occupation unless the educational system has the capability to establish a "program" that provides that training. More critically, chat "program" requires a certified teacher, and cost considerations require that a certified teacher will not be hired unless 20 or more students are available for enrollment in the course.

Program Expansion and the Constraint of Population Density

As long as these assumptions or constraints prevail, either we create through school district consolidation ever larger school systems which can support a larger variety of courses, or the student will "suffer" from "inequality of educational opportunity," i.e., he won't have a "program" available to meet his needs. After 70 years of school district consolidation and the creation of regional service agencies, "equality of educational opportunity" does not exist by this "program" criterion, and analysis suggests that it never will.

How can the data in Figure 7 justify such sweeping generalizations? The key lies in the distribution of population in the state, and the approach of the school district and regional consolidation strategy. In effect, educational planners have attempted to change the characteristics of the environment to fit its program strategy, rather than to change the characteristics of its programs to fit the realities of population distribution. The data in Figure 7 attempts to show that the realities of population distribution are insurmountable, and that an alternative strategy of individualization is more viable. The procedure is to examine the distribution of population in the state and estimate the greatest expansion of courses which would be possible through a standardized program strategy. We begin with the characteristics of school district population, determine the available high school populations, and then estimate the number of maximum number of vocational programs that can be maintained.

Under the school district consolidation strategy, the critical question has been,"How great a student population is required to support the range of programs needed to achieve equality of education opportunity?"

Conant (1956) has suggested that no high school should be operated unless it had an enrollment of at least 1200 students. Only then could a sufficient range of academic offerings be available to satisfy any concept of "equal opportunity". Obviously, a much larger population would be required to support any sizeable range of occupational vocational programs. Yet, as of July 1, 1973 there were 659 K-12 school districts in New York State. Of these, 240 districts had K-12 enrollment of less than 1500 students, and 525 districts had a K-12 enrollment of less than 5000.

To determine the distribution of high school enrollments across districts, assume that 25% of the K-12 enrollment accurately reflects enrollment in the senior high school grades 10-12. The assumption is that potential enrollment for vocational courses is drawn from these grades. Actually, this is true only for local school districts which use BOCES as its major source of vocational training capability. In large cities, students make a choice between attending a vocational high school or an academic school after the 8th grade.

The potential population available to support vocational programs under the current system can be estimated by assuming that the current enrollment patterns in BOCES vocational programs will continue. According to vocation enrollment data in Table I, 178,762 students are enrolled in vocational programs offered in LEA's; and 53,839 students are enrolled in the BOCES units. Since the majority of students in the LEA's are enrolled in business and distributive education, the potential expansion of vocational programs, in other than Big Five cities, can be estimated by the availability of students for BOCES enrollment. Using this proportion of 23% (53,838 divided by 232,600) enrollment in BOCES and applying

it across the total high school population available, we can arrive at a projection of students available for additional program expansion at BOCES. An estimate four times greater is possible by assuming that every student in high school will attend a BOCES vocational program. Under either assumption, the results are similar, i.e., that population distribution will not permit achieving the goals of equal educational opportunity through expansion of standardized programs.

Before a program will be established, the criteria of cost effectiveness requires that at least approximately 20 students be available for enrollment. Even this number provides only a marginal justification for hiring a teacher certified in the occupational speciality. Consequently, it is possible to use the 20-1 student teacher ratio to graph the maximum number of courses that could be made available as a function of population density.

Three linear projections are possible from the variables discussed so far. Use of the 23% participation rate in BOCES, without adjusting for regional concentration of population, results in the smallest estimate of vocational offerings. Half of the school districts in the state fall below the 500 student high school population figure and half above. At that enrollment level, the high school would contribute approximately 60 juniors and seniors to BOCES, supporting about three courses.

The fallacy in this estimate of course, is that it does not consider the consolidated enrollment made possible by providing a regional services agency such as BOCES. It is really the estimate of enrollment available from high schools operating independently.

Eyeballing of available data suggests even a regional consolidation

strategy will fall far short of achieving equality of opportunity, simply because sparcity of population characterizes the greatest proportion of the state. So long as the availability of vocational training depends on establishment of a "program" as currently structured, the population variable will limit potential capacity of the system.

However, what if population density was not a factor? In the Big Five Cities, for example, there is sufficient concentration of student enrollment to permit the offering of a wide range of programs. Even here, however, the availability of programs still does not match the variety of job opportunities available, nor are large city systems able to meet the student demand which exists for vocational training. The student population variable has been overcome to a large degree, but now the cost constraints built into the "program" assumption operates to prevent further expansion. The large cities cannot afford to build the schools or staff the programs which student demand would support.

Matching Vocational Programs to Job Opportunities

To evaluate the capability of vocational programs to provide for the variety of student job goals possible, it is necessary to make some estimate of program versatility. The issue now is whether a separate vocational program is necessary for each occupation listed in the Dictionary of Occupational Titles, or whether it is possible to design an educational program which can teach for a "cluster" of occupations. Most vocational programs do attempt to train for a cluster of occupations, but there are limits. For purposes of this discussion, BEDS listings on the number of identifiable vocational programs will be taken as an estimate of the degree of specialization necessary to provide equality of educational opportunity in vocational education.

Under the present categorization of vocational programs, there are eight occupational categories, and within these, 233 separate courses have been established. A separate analysis would be required to determine if these programs adequately encompass job requirements in the economy. However, this is not necessary to demonstrate the limitations on the current system which are derived from population density and the standardized program assumption.

However, it should be noted that the attempt to cluster occupations in program design can be inconsistent with the attempts of vocational educators to design programs around specific competencies required in jobs. This is demonstrated in the category of Distributive Occupation which theoretically encompasses over 400 job titles. After a two year program in Distributive Education, the most that can be accomplished is to provide a general background in retailing operation and principles of marketing.

In no way can it be said that the student becomes "qualified" for specific occupations such as salesman, advertising copy writer, apparel designer, or supermarket clerk.

B. System Design Using an Individualized Strategy

When individualization is discussed in administrative and teaching circles, the assumption is generally made that individualization means greater cost in terms of money and teachers. But this assumption is predetermined by the existing framework of organization. We think in terms of school districts, schools, and programs. Even though we know better, schools are still organized and administered around the notion that learning requires the presence and initiative of a teacher. The student is a passive organism, and it is the job of the teacher to stimulate, cajole, entice or generally motivate him to some form of activity. It is no surprise then, that over 60% of the cost of administering schools is absorbed by teacher salaries. Despite changes in curriculum and greater use of audio-visual materials in the classroom, the technology and administration of public education has changed little from the days of the horse and buggy. Education is a labor intensive industry, and one of the few left that has not attempted to apply technology to increasing effectiveness.

If the talents of professional teachers were effectively used, the situation might be more acceptable. But even a superficial task analysis of teacher activity would indicate that teachers perform tasks that could be accomplished by lower paid paraprofessionals, and/or by technological devices available within the information industry in general, i. e., computers, microfilm, information management systems, audio-visual devices for the transmission of information.

Any valid discussion of an individualization strategy should proceed on the basis of a task analysis of the student and teacher activity which occurs in the process of learning and instruction. That learning

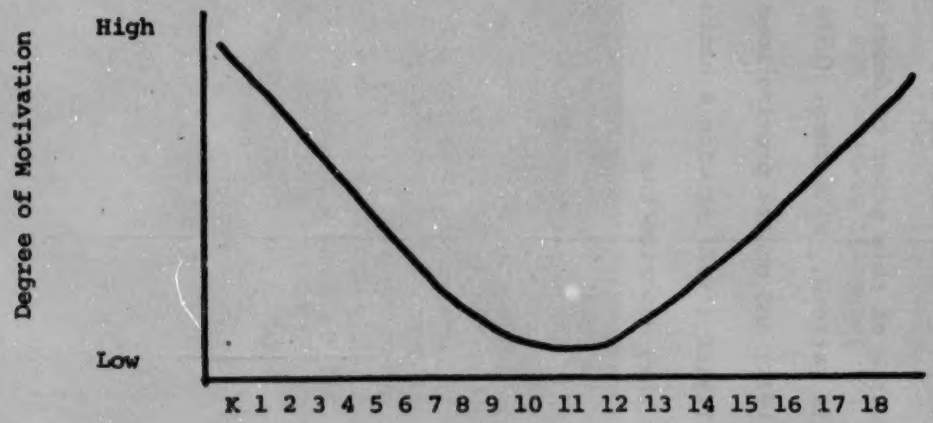
and instruction are not necessarily equivalent should be obvious. However, most research on classroom activity has been designed to determine the relative effectiveness of various teaching methods. That is, a comparison will be made between lecture methods, role playing, small group instruction, or some other method advocated for use by teachers. Most of the findings indicate that no significant difference exists. However, studies which attempt to analyse the predominate methods which are actually used in the classroom consistantly show that the lecture method or straight transmission of information consumes the majority of time.

Every conclusion except the unpopular one has probably been drawn from this research. What educators would not want to believe is that learning occurs as a function of the interest, motivation and hard work of the student, and is relatively independent of the actions of a teacher. In their more lucid moments, teachers have been heard to say, "Nobody teaches anybody anything." But this conclusion has not been incorporated in our design parameters. Equally critical, is the growing feeling that our current patterns of teacher-student interaction may actually decrease the motivation to learn.

Frymier (1965) summarizes this in terms of Figure 8 which diagrams his hypothesis that motivation to learn decreases as a function of public schooling. To test this hypothesis, Frymier developed an instrument to measure student motivation and attitudes toward school. His research in 1965 was scanty, but supported his contention. However, it doesn't require extensive research to validate what we know from experience. Simply compare the bright-eyes eagerness of young children entering kindergarten

FIGURE 8

The Degree to Which Young People Probably Feel Motivated To Do Good Work in School



Source: Frymier, Jack R. The Nature of Educational Methods, Columbus, Ohio, Charles E. Merrill Company, 1865, p. 200.

and the first grade to the lethargy, boredom, and often disruptive behavior of children in the senior high school. Today, these characteristics seem to reach their nadir in the twelfth grade and are commonly called "senioritis." By the end of high school, over 10% of the students have dropped out. But even among those who go to college, it is not until graduate school that students are generally characterized by the self-motivation and interest which is so common in the early years.

It is beyond the scope of this paper to describe the many factors which contribute to this pattern. Silberman, (1970), Goodman, (1960), Holt, (1964); Illich (1971) and others provide some insight into the problem. Goldhammer and Taylor (1972) provide a useful passage with which to end the discussion, as they describe the

> ...paradigm upon which the present educational system is established: the primary goal is the transmission of knowledge; the primary legitimization is scholarship as an end in itself; the primary function is to screen out of the system the academically unfit. The curriculum is organized into separate academic, subject matter modules, each module being presumably self-contained and functionally unrelated to other modules...
> Applications to life and life problems are purely coincidental. The major emphasis is placed upon the logical organization of each subject matter as a separate discipline rather than as a tool which can be used to solve the problem of living. (p. 20)

Analyzing and Redefining the Role of the Teacher

Clearly a first step in moving toward a strategy of individualization would be to analyze the tasks which student and teacher perform in the process of learning and instruction, and those which are most critical to effectiveness. It is likely that we would find that best results in learning come from a special kind of student acitivity, most often conducted without the presence of the teacher. It is commonly called thinking or studying. Acquisition of information is a small part of that acitivity. More critical are the tasks of testing information, relating it to personal experience, and integrating it into one's overall pattern of beliefs.

But if the best results of learning depend on the student, why do we need teachers? Traditionally, teachers have been needed because they were the experts in the organization and transmission of knowledge. They had "learning," and if one wanted "learning" he found a teacher. Today, in an information rich society the teacher as a source of information is rapidly becoming obsolete. Libraries, textbooks, television, audio-visual devices, information retrieval systems and so forth, provide the means whereby any student, once he learns how to read and use these resources, could retrieve any information he needs. Should we therefore, conclude that we can do without teachers today?

On the contrary, the teacher is potentially more important in American society today than he has ever been before. But he is important for reasons other than his information expertise. Given the increased mobility of society, the breakdown of the family, the exclusion of youth from the daily work of society, and a host of other factors which push our youth

aside, the teacher is the only major figure left who is charged with the daily care and guidance of youth. A new role advocated for the teacher has been sometimes described as a "resource" person. It seems to argue that given the information explosion, the teacher should no longer be concerned with transmitting standardized packages of information, but should become an expert on managing information resources and directing the student to that information most relevant to his emerging needs, growth and development. This is a valid concept as far as it goes.

But it is also clear that teachers have a vital function to perform in coordinating community resources and experiences which are essential to tasks of affective and experiental education. The realities of life cannot be simulated in the school building. The education of youth is a total community function. While the teacher might operate as a central coordinator of the student's educational experience, he cannot substitute for the experiences which can only come from parents, businessmen and other members of the community who help the student explore and find his place in society.

It is too early to specify what these tasks of community coordination might be in the future, but developments in vocational and career education suggest what they might be. Programs of work study, cooperative work experience, internships, youth groups and other activities which are already a part of the program of Occupational Education need to be provided for all youth. But their goal transcends the mere vocational orientation under which they have so far been conducted. More fundamentally, the need exists for affective and experiential education, and this

demands education that once again takes place in the setting of the community itself.

Conceptualizing Functions of an Individualized System

To pursue new roles for the teacher which are demanded by changes in modern society, it is first necessary to specify the functions which must be performed, and free the teacher from those which might be better performed through other means. It seems likely that any effort toward individualization which adds to the present cost of education, is unlikely to succeed. What is needed is an operations analysis which can lead to an improved quality of education at the present level of expenditures, or possibly with a cost reduction.

One obvious way of both reducing workload and making greater flexibility possible within the system, is to relax school attendance laws which require that all children be physically present in schools every day, and under the constant supervision of teachers. If the greatest progress in learning is dependent upon the student's own studying, thinking and integration, there is no reason that high schools, at least, cannot adopt the pattern of colleges and universities which permit students to learn without the physical presence of a teacher. Students need not always be in classrooms. They can study in libraries, resource centers, or at home. They can be counted as learning when they are on the job doing volunteer work in hospitals, working with a youth group on a community project, or working on an arranged internship in business or municipal government. The question is not <u>where</u> students learn, but how well the educational system can create, coordinate and integrate the many experiences which students can and should have.

Figure 9

An Individualized System Based on the Developmental Framework

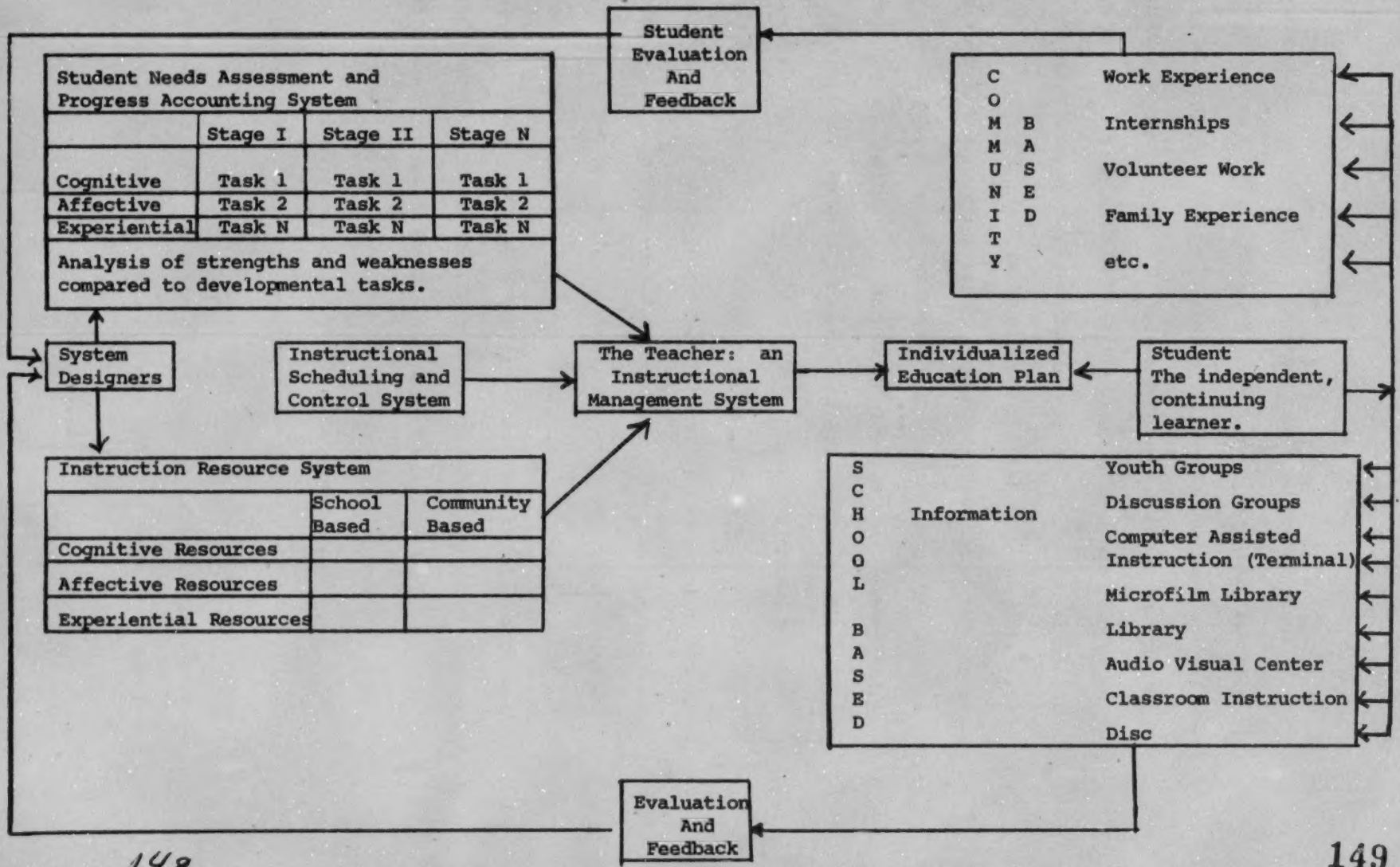


Figure 9 attempts to conceptualize the major components of an individualized system in which individual differences and system flexibility are both considered. In this diagram, the interaction between student and teacher remains the central focus of system design. However, the role of the teacher has been shifted from that of a dispenser of information, to that of an instructional manager and counselor. The role might be considered as analogous to that of the guidance counselor in the RBS model in Philadelphia. Sessions with the student are designed to plan and integrate experiences rather than provide them. The responsibility for learning experiences has been shifted to peripheral contacts with a variety of resources which might be classified as either school-based or community based.

The list of such activities in figure 9 is not meant to be definitive or exhaustive, but rather suggestive of two basic principles. First, that schools must plan and coordinate opportunities for community based experiences if affective and experiential objectives of education are to be achieved; and second, that resources within the school itself can be more flexibly utilized and more accessible to students than the present method of organizing them around full, and half-year structured cources.

In regard to school based activities, there are many alternative ways in which school services can be packaged and made accessible to students. One might draw a fruitful comparison between the present system of offering services in full, and half-year courses, and the way in which the physical therapy department of a hospital offers services. In school, in order to pursue his interests, the student must enroll in a course, and make a commitment for a large block of time. In the

physical therapy department, a patient can pursue a more limited objective. The physical therapist can tailor his services to the specific needs of the patient, and when the objectives of therapy are met, the patient is free to turn to other pursuits.

Industrial Arts and Home Economics departments in the school could adopt a similar plan. A student pursuing a distributive occupation in the apparel industry, for example, could turn to the Home Economics department for a modular program in textiles, and follow this with a module on clothing construction. If the student's goal is product knowledge for salemanship, less extensive knowledge if required than if he plans to operate a clothing alteration business. The same would be true in the Industrial Arts department. Wood and carpentry skills, automotive or electronic skills, all lend themselves to modular packaging. However, the examples cited concern situations to which physical skills and laboratory experiences are required.

In all cases where the learning process requires acquisition or manipulation of information, it seems that modern technology offers viable substitutes to using the teacher as a dispenser of information. Since such technology invariably involves recorded information in a variety of forms, perhaps the issue can be reduced to a simple question. "Is it more desirable for the student to obtain information from a personal delivery made by a teacher (who might often be mediocre); or is it better to obtain the information from an expert indirectly through a vehicle such as a film, filmstrip, microfilm retrieval system, or an individualized learning package?" The question concerns both the quality

of instruction available to students, and the cost effectiveness of educational services.

To appreciate the cost savings and improvement in quality which are possible, one should recognize the tremendous duplication of effort that is involved in the process of providing instruction today. Teachers operate essentially as autonomous units within the school. They are given a course description and a curriculum guide which predominately lists the topics to be covered in the course with suggestions as to the sequence in which they are to be offered. Using reading assignments in textbooks and other standardized material available, each teacher throughout the country prepares very comparable lesson plans in anticipation of meeting his class the following day. There is little sharing of materials, for where a spirit of cooperation makes sharing possible, individual differences in teaching styles and values leads each teacher to make changes which he feels will result in a "better" presentation.

Unfortunately, "better" presentations do not always emerge. While all teachers are certified, and hence qualified, students are well aware of differences between good and bad teachers. Nor does such diversity between teachers necessarily lead to improved quality of instruction for students. The teachers have choice, but the students do not. They are stuck with the teacher who is assigned to the course in which they enroll. However, by use of information technology, both the quality of instruction can be improved, and cost benefits can be derived from the elimination of duplication. Through the National Curriculum Network, or by other means, let's say that twenty different presentations of material are developed

by experts, each suited to anticipated differences in student learning styles. These could be captured on film or other devices, and made available through learning resource centers in each school. Costs could be further reduced by concentrating the most expensive computers and transmission facilities at regional service agencies, and the school would retain duplicates of only those facilities which cannot be centrally located and readily transmitted to the school's resource centers.

Suggestions such as these are so widely recognized that they can be considered commonplace. Technology is so advanced that implementation systems for most of these suggestions could be cooperatively designed by a school staff and an experienced salesman from IBM or Eastman Kodak Company. So the question arises, why haven't school systems taken action to achieve such cost reduction? Part of the answer lies in the problem previously discussed, i.e., the traditional attitudes and paradigms governing curriculum designers and administration. A more crucial part of the answer, however, lies in lack of means to coordinate the diverse and seeming chaotic activity which would result from students roaming all over the school and community. How can one fragment the educational process in the way individualization would imply, and still maintain any semblance of planning and control?

A clue lies in recognizing the functions teachers now perform in planning and control and asking if systems can be designed to improve their performance in this area as well. Theoretically, at least, the most crucial task of the teacher is to assess the needs and interests of the students, and select learning experiences which are most suited

to the individual. This suggests that we can speak of two supporting systems which would be needed by a teacher acting as a manager of instruction. First would be a "Student Needs Assessment and Progress System," and second, an "Instructional Resource Management System." To be effective and consistent with Regents Position Paper #11, both would be structured around a growth and development perspective.

The Student Progress and Needs Assessment System

Before discussing the critical concepts in a system designed to assess student needs and progress, it is worthwhile to place it in the perspective of what the educational system currently knows about its students. Until recently, the primary information which regional and State planners gathered about schools and students was the number and type of courses offered within the various districts, and the number of students enrolling in each. Additional data was available on the number of students passing and failing. Within the school, a student progress record is maintained on which various standardized test scores are recorded, the courses taken, and the student's grades. Teachers write comments on these cards whenever important observations are to be made. The cards are primarily used by guidance counselors , but conscientious teachers, whenever possible, review the cards when students enroll in their classes.

With national concern for handicapped and other disadvantaged groups the SED began to analyze student enrollment data and dropout rates by categories of special populations, thus obtaining improved knowledge of group needs. But it was not until recently that New York State began to systematically assess some of the most fundamental information of all. In 1965, the Pupil Evaluation Program was instituted to assess the basic skills level of students in the sixth grade. Students who fall below minimum competence in reading and mathematics are called "Pupils with Special Educational Needs" .and pupil weighting is adjusted in computing financial aid to permit districts to initiate remedial

programs. To this day, however, it can be justly stated that the type of information which would be needed to truly evaluate needs of s students in an individualized program, simply does not exist.

Since traditional and developmental theories of education both insist that education begins with assessment of student needs, the lack of information on those needs is appalling. One need not advocate an individualized strategy to recognize that improvement in our system of needs assessment and student evaluation should constitute one of the pressing priorities of education. When one does advocate an individualized strategy, it is clear that such a system is indispensible.

It follows logically from the past discussion, that construction of such a system would reflect the theory of growth and development. That is, a student profile would be developed around the stages of development, and the cognitive, affective and functional aspects of growth. Again, perfect knowledge of developmental processes would not be required in order to make substantial improvements over what now exists; and the concept of the developmental task would provide a pragmatic compromise until further refinements could be made. Two benefits derive from designing the system in this way. First, it is directly supports the Instructional Manager-Teacher in providing guidance to the student in the planning of individualized programs; and second, it provides the base for organizing instructional resources.

The Instructional Resource Management System

Essentially, this component would be a computerized retrieval system which would make available to the teacher and students, a listing of both school-based and community-based resources available to meet any learning objective derived from needs assessment. From these, a plan and schedule of activities would be developed, which the student would pursue on his own responsibility. When such activities involved the use of individualized learning packages, or audio-visual devices, scheduling would not be particularly difficult. When the activities involve appointments with members of the community, small group discussions in school, or the use of facilities in industrial arts or home economics where teacher supervision and limited access to machinery might be involved, an Instructional Scheduling and Control System would be necessary. While this would be complicated, the existence of online reservation systems operated successfully by airlines suggests that it is technologically feasible.

The implications of the Instructional Resource Management System are many. First, it would involve an inventory of community and school capability to support instruction. This concept is not new, and current trends are moving in this direction. The Niagara Frontier Industry Education Council presently maintains a listing of several thousand volunteers from various businesses and public agencies in the community with a description of the types of services they are willing to offer to individual students and schools. That members of the community are concerned and willing to cooperate with the school system has been demonstrated in the RBS project and hundreds of other projects throughout the country. The potential resources yet to be tapped are innumerable:

the merit badge counselors servicing the Boy Scouts; retired persons; service agencies anxious to publicize their services; and parents who, once they see a meaningful role to play in education, will donate their time and effort. What is difficult, is to define the various capabilities which exist and relate them to the specific needs which students have in growth and development.

In the needs assessment and progress system, the basic component was called a developmental task. It could have been called a behavioral learning objective, or simply an instructional objective. In the inventory of instructional resources, the corresponding unit might best be called an individualized learning packet. Such packets need not be confined to reading assignments or student exercises. More fundamentally, they would be instructions on how to utilize the resources involved, and the type of evaluation that was expected.

These concepts are highly consistent with present methods of instruction. A good teacher does not pretend to be an expert in every phase of the discipline he is teaching. He is ready to admit that he doesn't know, and directs the student to readings, experts or other resources more competent than himself. Even in such a simple matter as a film presentation in class, the teacher demands a critical evaluation of the film, a statement of the implications of what was learned, and the asking of questions that should be raised. These basic techniques of inquiry and evaluation are not mysterious virtues which emmanate from the presence of a teacher. They can be written down and made a part of the individualized learning package given to the student.

A system for managing instructional resources, also has implications for cost benefits in inventory control, purchasing,and better utilization of resources. Each learning packet requires a statement of resources and materials which the student will use during the learning experience. A record could be kept on the rate of utilization of each packet and purchases could be held down to match the degree of actual use.

C. Limits on Individualization

The process of individualization implies an increasingly detailed breakdown of the educational process into more and more numerous units. Planned individualization implies that we can truly identify the numerous needs that are likely to arise from diversity in student interests, abilities, rates of learning and so forth, and build a flexible system capable of responding to each of them. Thus, there is an increasingly detailed specification of tasks. The current trend toward behavioral objectives illustrates what happens when this process is continued.

What is easily described as a course syllabus ends with a listing of literally thousands of smaller behavioral objectives. One of the major criteria used by advocates of behavioral objectives is that they be measurable. That is, the terms are sufficiently specific that both the student and teacher can be clear as to what needs to be done and are able to measure by some criterion whether or not the task has been accomplished. Many regard this trend as the only way in which the effectiveness of education can be improved, and accountability established.

Yet, there is another side to the coin of individualization and behavioral objectives. Combs (1972) expresses it well:

> The general tendency of the behavioral objectives approach is to attempt to break behavior down into smaller and smaller fragments capable of more and more precise measurement. This attempt must be resisted, for the process of fractionation destroys the very goals sought. Intelligent behavior is gestalt- an intricate pattern of parts in which genius resides, as in a symphony, not in the notes but in the composition, in the way the elements are put together. Such behavior is expressed in action in global, holistic terms. That fact cannot be ignored just because it is inconvenient. If intelligence is exhibited in holistic behavior, we shall simply have to define our objectives in these terms and thereafter, find ways to assess it. Measuring what we know how to measure is no satisfactory substitute for measuring what we need to measure. (P.12).

Combs is certainly not against individualization of instruction, he is one of its foremost advocates. However, he identifies a critical problem that is encountered in every attempt to develop a program of planned individualization. If we are going to plan, we must identify and specify the smaller and smaller elements which provide a greater degree of flexibility. On the other hand, unless this increasing specification is accompanied by a comparable understanding for how they fit together in total behavior, the result is a fragmented, dehumanized approach to education.

Thus, the limits of individualization are established first by the theoretical understanding we need to maintain an overall perspective of the process, and second, by the technological capability to manage the diverse information elements involved. In terms of the hardware and information handling capability of computers, the technological capability exists. In terms of the software or programing technology needed, the technological problem is solved to the extent that we develop the theoretical framework needed to maintain an overall perspective of the educational process.

It seems plausible that the growth and development framework, further specified by developmental tasks, can be adapted to both the organization of educational processes and the computer programs needed to support them. Examination of the developmental framework illustrated in Figure 5 and 10 indicates it's possible to provide a developmental profile of the student which illustrates his strengths and weaknesses. At an elementary level, for example, a profile which shows that the student has not attained the reading competency expected for his age, implies the need for remedial work in reading.

While even this elementary capability would be a vast improvement over the present system, at some point, more complex frameworks of organization will be required which enables management of the interactions between cognitive, affective and functional learning. Gelatt (1962) has proposed that the decision making process might be used as the conceptual framework for guidance functions. It might also be used as a framework for educational systems design. The justification for this premise would rest on two characteristics of decision. First, it is the decisions of the individual which most fully reflect his unique characterists and intentions. Second, decision making is an integrated human activity because it requires a bringing together of the individual's cognitive and affective learning into a focal point for decision and action. Briefly stated, cognitive functions provide the basis for identifying alternatives and forecasting outcomes, while affective activity provides the values and criteria for choosing between alternatives.

The need for an integrating framework becomes increasingly clear at the interface between teacher and student. Previous attempts to individualize have often focused on the need to provide greater choices for students and involve them in the planning of their own education. In early approaches, however, the student is simply provided with choices, and success of the educational endeavor rests on faith in his good will and ability to make appropriate decisions. This faith has been only partly justified. Too often, students lacked a developed value system or any planful direction in their growth. Indeed, the situation is comparable to the lack of development in vocational maturity. Consequently, we end with instances of choice without responsibility, and as many fail-

ures to achieve educational goals as we have success. This does not imply that lack of development is something which inherently resides in high school students. There is good reason to believe that the educational system is reaping the fruits of its own failure to provide for affective and functional learning. However, further discussion of this point is beyond the immediate purpose of this analysis.

More relevant, is the improvement that can be made in early attempts to individualize, by the availability of the Student Needs Assessment and Resource Management Systems. Obviously, if the teacher and student can now be provided with a profile of student strengths and weaknesses, the likelihood of responsible choice is vastly increased. Further, if the decision framework can also clarify the processes being followed by teacher and student, it can itself be a diagnostic instrument leading to further specification of needs.

One can briefly demonstrate this by two classic decision problems which are part of everyday experience. One class of decision is described by knowing what we want, but not knowing how to get there. Our values and goals have been specified, but we have insufficient information about the alternatives which might be available. This translates to a profile in which affective development in regard to the decision, is further advanced than cognitive development. The tasks to be accomplished involve a cognitive study of information; past solutions and new technology which will lead to a list of alternative solutions and a forecast of their probable outcomes.

More typical of decisions facing youth in a information rich society, is that they are overwhelmed by the range of alternatives which face them,

but they have not developed the value system needed to make a selection. This translates to advanced cognitive development relative to the decision, and the need for further study of values, self and desirable human goals.

IX. Establishing A Planning Paradigm for Occupational Education

This analysis began with the assertion that changes in the problem structure of occupational education required a reexamination of the systems designed to deliver vocational education services. Categorical programs in vocational education were traced to the passage of the Smith-Hughes Act in 1917. With the Vocational Education Act of 1963, emphasis was shifted from categorical programs to the needs of people. But dealing with the needs of people proved more difficult than anticipated. It involved more than matching people to available job opportunities and then providing the necessary training. As research in vocational development and career education has shown, the development of people for meaningful and successful careers begins in childhood and the tasks extend throughout adult life. These facts are so inescapable that the educational system's responsibility for vocational development has been affirmed in national legislation and in the New York Regent's Position Paper #11.

But the concept of vocational development itself rests on more fundamental issues in the growth and development of human beings in general. Vocational development depends on the cognitive development of knowledge and thinking skills. It also depends on the affective development of one's self concept (Super, 1951), and the values which surround it. These in turn are expressed through experience in testing self and one's skills in the situations of life. When analysis of educational systems touches upon these fundamental tasks of human growth and development, the separation of vocational education from academic education appears incongruous,

for it can be seen that traditional vocational education cannot hope to succeed unless the development of the individual has prepared him for occupational choice and commitment to a given career area.

When education is viewed in terms of the intricacies of human development, even the structure of academic education appears ill-suited to the realities of human processes. Both academic and vocational education have structured themselves around standardized programs, and neither seem able to grapple with the range of human differences which students bring to them. It would appear that the techniques used to provide a system of mass, public education are no longer suited to the complexities of a society dominated by specialization of labor and pluralism. Nor do they appear suited to support the intricate decisions which individuals in the modern world must make.

The solution to this problem has been conceptually simple, but impossible to implement within the existing structure of schooling. It calls for individualized or personalized instruction. It begins with a needs assessment or diagnosis of the individual's needs or stage of development. With knowledge of the individual's needs, it is possible to design a series of learning experiences which will meet those needs. But from the position of those who must implement individualized instruction in public schools, this solution is not simple, but simplistic. First, the very structure and organization of schools into grade levels, subject matter disciplines and classroom assignments prevents the very flexibility and diversity of response which educators need in order to individualize. Schools are structured around standardized programs and they respond to people in those terms. When the existing structure is examined

in relation to the tasks of individualization, most observers would agree with the Regents that ". . . an occupational education system capable of serving all students will need to be broadly conceived as part of a redesigned total educational system," (1971, p. 6).

But how do redesigned educational systemscome about? Perhaps those who have resolved the perplexity of change can offer more sophisticated answers, but this analysis assumes that in whatever strategy is adopted, some person or agency must take the initiative through planning. The concept of individualization has received support in principle. The need is recognized. What remains is to find the vehicle to spark the initial effort.

A. Planning: The Translation of Ideals into Practice

The implementation of an individualized strategy will require an extensive period of research and development followed by large investments in capital equipment. Initiative must therefore lie with an agency that either has the resources, or is capable of obtaining and coordinating resources from others. This suggests that either the State Education Department or federal government are the prime candidates for initiating action. But how is action initiated in such agencies? Does someone merely fund a research and development project or establish a "program" for individualization? Such approaches have not been noted for their effectiveness. Research once completed, more often than not, lies on a shelf and remains unused until the next researcher interested in the problem comes along to continue the effort. Separate programs may remain separate from the overall system forever. While initiating research and development is part of the effort, there is more to the matter.

Whether one is managing an entire educational system or merely the education of one individual, planning precedes any organized and intentional action. Therefore, it makes sense to view planning as the vehicle for translating the ideal of individualization into practice. However, individualization is not merely another project. It is a concept which is to be used in the redesign of the entire system. The type of planning needed is not equivalent to that which produces a five-year plan for occupational education, such as was examined in Section V. That plan was criticized because it did not adequately address the issues outlined in Regents' Position Paper #11. But given the framework from which it

was developed, it is not surprising that the broader problems of occupational education was neglected. Federal regulations governing the preparation of state plans had dictated the perspective that would be followed. What needs to be considered, is not the changes that might be made in the five-year plan itself, but what changes are necessary in the planning paradigm or framework which the plan was derived.

Planning documents are typically implementation plans. Behind them is an elaborate decision and negotiation process by which goals and alternatives are selected to direct the activities of an organization. What is called a planning paradigm in this section, might be called a situational analysis or even a theoretical framework of issues. For every goal or activity outlined in an implementation plan, there are a dozen alternatives residing in the situation itself. The value of a specific plan can only be assessed in terms of the viability of those other alternatives. As Robbins points out: ". . . rationality in choice is nothing more and nothing less than choice with complete awareness of the alternatives rejected" (1946, p. 152). It is a truism that unless the alternatives dealing with individualization are included in the initial planning paradigm, they have no chance of being considered in an implementation plan. By Robbins' criterion, their exclusion from the planning paradigm is less than rational.

What seems to be needed is a planning paradigm which can lay out the major educational issues in a comprehensive and integrated perspective. A planning paradigm which ignores or does not admit issues can never effectively deal with them. Similarly, a framework which lays out issues without a means of examining their interrelations is likely to

result in sporadic and disconnected actions. The task is to take all of the issues previously discussed, and integrate them into a conceptual scheme from which effective planning may proceed.

Balancing the Ideal and the Practical

The psychological process of planning is not wholly an intellectual affair. Every human situation contains ideals or goals which are beyond the current reach of the system. The planner must always balance the ideal with the attainable, and do so within a time frame appropriate to the organization. Precise definition of the process by which a planner achieves such balance is difficult. But two aspects of the process are indicated by Barnett (1953) and Morrison (1940). Barnett notes:

> Many individual's are prepared to accept new ideas because they have not dedicated themselves irretrievably to a custom or to an ideal of their society. (p. 7)

Clearly there are people within the educational system, at local and state level, who operate on the assumption that the current system of education is suitable and/or unchangeable. Sometimes this attitude is rooted in the belief that current education practice is satisfactory and "is as it should be". Sometimes the attitude is rooted in self-interest and a desire to avoid the trauma of change. In the face of evidence that current educational practice is not adequate, it can only be hoped that such attitudes are not too wide spread.

Morrison's comment, however, deals with an aspect of planning which affects both policy and individual commitment. He states ". . . I have declined to allow myself to be governed by the limitations of what is at

present feasible. . ." (1940, p. viii). It is almost tragic that in the face of widespread agreement on the principles of individual differences and the need to focus on an individualized approach to education, that progress has been stalled by the charge that individualization is not feasible or practical. The fact is that a system of individualized instruction is feasible before the end of this century. The theoretical base for a workable, if imperfect, needs assessment system currently exists, and the information processing technology is readily available for bringing new capabilities to schools throughout the state. It makes sense then, that the issues discussed in this analysis be incorporated into the planning perspectives of those in SED who can marshall the resources needed for improved education.

B. Outlining a Planning Paradigm

What would a comprehensive planning paradigm for occupational education look like if the issues of vocational development and individualization were to be included? A complete answer to that question is, of course, impossible. It depends on information about human functioning which research has yet to reveal. But the principles discussed in previous sections permit prediction of a framework that appears viable for the foreseeable future. A diagram was previously used (see Figure 6) to contrast the framework of traditional education to the emerging views of career education theorists. At that point, the objectives of career education were unspecified. That diagram may now be redrawn as Figure 10 to include the issues raised in this analysis.

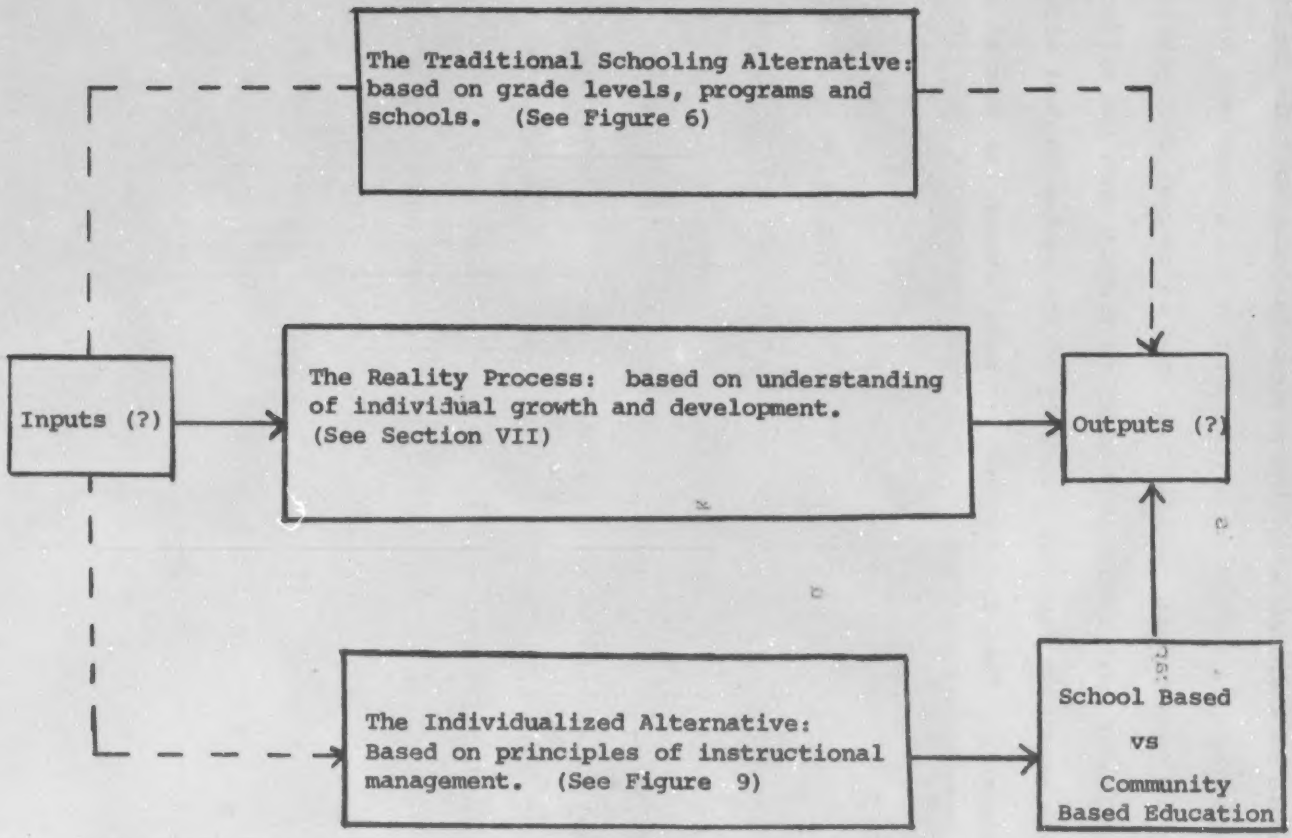
Figure 10 begins with the assumption that the growth and development of the individual within the context of his society, constitutes the central reality or state of nature with which educational planners must grapple. In order to extract from that reality the issues which might be made explicit in educational planning, Figure 10 is expanded by use of systems terminology, i.e., input, process, output, and management mechanisms. When applied to dynamic, open-ended human systems, such terms often appear artificial. Their chief value is in illustrating the nature of the interrelationships which exist between issues.

Input Considerations

How should the planner view students in this schema? It seems most realistic to view the student as the dynamic process itself rather than as an input to a process. But, for purposes of discussion, it is useful

Figure 10

A Planning Paradigm: An Outline of Some Major Issues


The Traditional Schooling Alternative: based on grade levels, programs and schools. (See Figure 6)
Inputs (?)
The Reality Process: based on understanding of individual growth and development. (See Section VII)
Outputs (?)
The Individualized Alternative: Based on principles of instructional management. (See Figure 9)
School Based
vs
Community Based Education

to extract students from their process of development and treat them as inputs to whatever schooling process is designed. The implications of this conceptual shift is illustrated by the educational system's response to the handicapped. While it is true in general that people are different, the traditional system only seems to respond when the differences are of such magnitude that the inability of the system to deal with them is inescapable. Then distinctions are made between the general population and groups that are called exceptional. This includes the gifted as well as the handicapped.

There is no question that groups within the population have unique problems not shared by all, and that special strategies need to be adopted. What seems to be overlooked in this approach is that special populations are people first, and people with unique problems second. This is a fact that the most handicapped of handicapped will be quick to point out. Indeed, the shift from special programs for the handicapped to mainstreaming stems in part from this recognition. Mainstreaming may or may not be the best solution to meeting the needs of handicapped or other special populations. But, it is clear that the handicapped are not helped by categorizing them so they fit into the system's structure of specialized programs. To truly accomplish the shift from categorical programs to a people perspective, the system must learn to respond to people in general.

In this connection, it is of special interest that P.L. 94-142 of the United States and Chapter 853 of the New York State Education Law mandate the creation of individual education plans (IEP) for handicapped students. In terms of Figure 10, one could say that the educational system has already divided its input population into two categories. The general

population is treated as input to the traditional schooling process, and the special populations are treated as input to a process of individualization. Yet, experience with individualized programs would reveal the same problems as previously discussed. Attempts to individualize suffer from lack of an instructional management system which can support the processes of needs assessment and individualized planning.

Process Considerations

If growth and development of the individual is the reality process, then the strategies of traditional schooling and individualized instruction become alternative processes which the educational planner creates to facilitate individual growth. Such processes are never equivalent to the reality process, and the relative merits of alternative educational systems might be judged in terms of how closely they simulate or capture what really goes on in human and social processes.

Reality Processes

The reality process was discussed most thoroughly in Section VIII, where an attempt was made to conceptualize an information system which could be used to support teachers in the assessment of individual needs. In effect, the ability of the educational planner to grapple with the realities of growth and development will depend on their ability to conceptualize that process and incorporate information about it into an instructional management system. Only the broad dimensions of the information system were discussed in Section VIII. One dimension dealt with the aspects of personal development. These were classified as the cogni-

tive, affective and experiential or functional. Provisions were made for recording the longitudinal aspects of growth, but no specific framework was recommended. It seemed likely that cognitive and experiential aspects of growth would demand their own specialized frameworks, and it was unlikely that all would proceed at the same rate. The terminology used to structure developmental processes may change in the future, but these dimensions seem permanent and critical to any attempt to base educational systems on human growth.

One point not previously discussed deserves mention. It is inconsistent to conceive of education as a lifelong process, and then restrict learning opportunities to those which can be provided in schools which are mostly accessible to young people. The problem has not been solved by the addition of adult education programs, for such efforts have followed techniques similar to traditional schooling. With projected changes in the demographic makeup of American society, there is a new challenge of the aged, not to mention the middle age group which increasingly faces the need for mid-career change.

But, the problem of the aged is of special interest, for in the developmental perspective, and in almost every society except those of industrialized nations, the aged theoretically represent maturity epitomized. They are the wise men of the tribe, the well of experience, the living examples of what it means to grow and mature. But in American society, the aged often reflect the indecisiveness, lack of commitment and alienation which characterize large numbers of youth. There is a pattern in education which deserves recognition. During the first twenty years of life, people are put into schools and nurtured. During the last twenty,

they are put into pasture and discarded. If the essence of education is to learn how to live, then educators will have to learn more about how people do live. The insight needed will require a shift in perspective from buildings and programs to people themselves. The concept of continuous and life-long learning seems implicit in the longitudinal view of development.

Traditional Schooling

The process of traditional schooling was previously diagrammed in Figure 6. It suggests that educational planners of the past have conceptualized the process of individual growth longitudinally in terms of grade levels, and the aspects of growth in terms of programs appropriate to each grade level. Both grades and programs are organized into schools. At the senior high school level, separate programs and schools are created for those who intend to enter the world of work upon graduation, and for those who intend to go on to college. Hence, vocational schools were established. Those who could not decide between college preparation or job preparation were given a program of general education, which in the view of many has prepared students for neither college, jobs nor much of anything else.

In making the contrast between the framework of traditional schooling and the process of individual development, what can be validly concluded? It is not valid to conclude that teachers within the traditional school make no attempt to deal with the whole person. They do. In this sense, the efforts of modern teachers have been treated unfairly for they have not been mentioned very often. But it can be validly concluded that

their efforts have been inadequate relative to what needs to be done, and that the conceptual framework of traditional schools is itself a barrier to expanding teacher effectiveness in those areas. Particularly at the high school level, the division of teachers into academic areas and the scheduling of students into 40-45 minute class periods effectively insures that no teacher in the system will have the capability or opportunity to integrate what needs to be known about the development of the whole person.

The Individualized Strategy

The thrust of the individualized strategy for education and particularly the instructional management system outlined in Figure 9, has been to change the framework within which teachers operate. Rather than define the role of the teacher in terms of grade levels and subject matter responsibilities, the role has been redefined in terms of instructional management. Using an information system designed to portray the process of growth and development, the teacher is now expected to conduct a needs assessment, specify the learning experiences conducive to further growth, and arrange both in an individualized instructional plan. While these functions might be done manually, they appear to be economically feasible only when computers are used to provide an instructional management system, and other information technology is used to relieve teachers of the need to act as transmitters of information.

C. Policy and Administrative Implications of Instructional Management

The primary focus of the individualized strategy is to improve the quality of instruction. It has implications for the administrative structure of education as well. History shows that the structure of education has been influenced by political considerations as well as by concern over the quality of education. Constitutional authority and responsibility for education rests with the states. Except for Hawaii, most states deal with this responsibility by setting minimum standards and permitting local educational agencies to govern their own systems. The American tradition of individualism supports local autonomy and resists state and federal control of local schools.

While this pattern extends to several areas of social management, a dilemma has emerged, and a consistent pattern of events leads to the dilemma. As society increases its capacity to improve the quality of life through specialization and technology, expectations arise for further improvement. Higher expectations are formalized into statements of social need, and they are translated into laws which establish programs and agencies to satisfy them. Increasingly, local communities are recognizing that the social programs established in law have attained a complexity which exceeds the capacity of local resources and management. There is a clamor for additional state and federal aid in carrying out the mandates of these programs. The result is a dilemma in which local communities turn to state and federal agencies for action and aid, but oppose their regulations of local affairs. Revenue sharing is one response to this situation, but taxpayer demand for the control and management of public

funds establishes a limit to the autonomy which any recipient of public aid can be granted.

In the educational arena, rising expectations and new needs are being recognized. There is a demand for affective education, career education and individualized instruction. Federal legislation has formalized a program for career education, and P.L. 94-142 mandates individualized programs for the handicapped. If an individualized strategy is to be adopted for all students, it seems certain that a state or federal effort will be required. Would such effort imply a further encroachment of central authority on local autonomy?

There is a unique difference between efforts to implement a strategy of individualization and the traditional program solution of central agencies, which may resolve the dilemma. If the individualized strategy is implemented by providing a new capability for instructional management, the central agency has not imposed a solution on local communities. It has increased local capability to manage their own affairs. The instructional management system outlined in Figure 9 aims at recognizing individual differences and managing the complexity which follows from such recognition. What has been provided, however, is not a programmed solution, but a management capability which can be programmed into a computer, duplicated, and made available to even the smallest community.

While individual differences are the focus of the system, implicit is the ability to focus on differences between communities as well. The basic argument is that an instructional management capability is indispensible to improving education. But just as individual students will

follow diverse paths of development and never use the entire resources of the system, so communities can choose to use only those portions of the system appropriate to their circumstances. Local improvements and modifications can and should be accomodated. Indeed, the focus of the system on accomodating differences may be useful in the governance of other social programs as well. Certainly, it would be a case unusual in the history of central government that by improving local capacity for decision making and choice, that central agency involvement can lead to expanded local autonomy.

From the viewpoint of the central planner, a similar dilemma exists. Centralized management is characterized by a staff of specialist-experts who obtain an in-depth perspective of problems that is seldom possible for local administrators who allocate their efforts over a broader range of issues. Being in a position to gather information about innovations and improvements being effected throughout the nation, specialists develop high expectations of what could be accomplished. When this knowledge is met with the resistance to change found in local communities, the central planner becomes disillusioned with the value of individual or grass-roots effort.

Again the strategy of providing management capability to local communities may provide a compromise solution. Construction of the instructional management system is a job for the specialist-expert, albeit, not one to be accomplished in isolation. Such a system can encompass the best of existing theory and practice. But providing the capability to solve local problems is not the same as imposing a solution. Only when local managers have the capability available can the arguments for centralized versus local control be adequately tested.

D. A Rationale for SED Organization

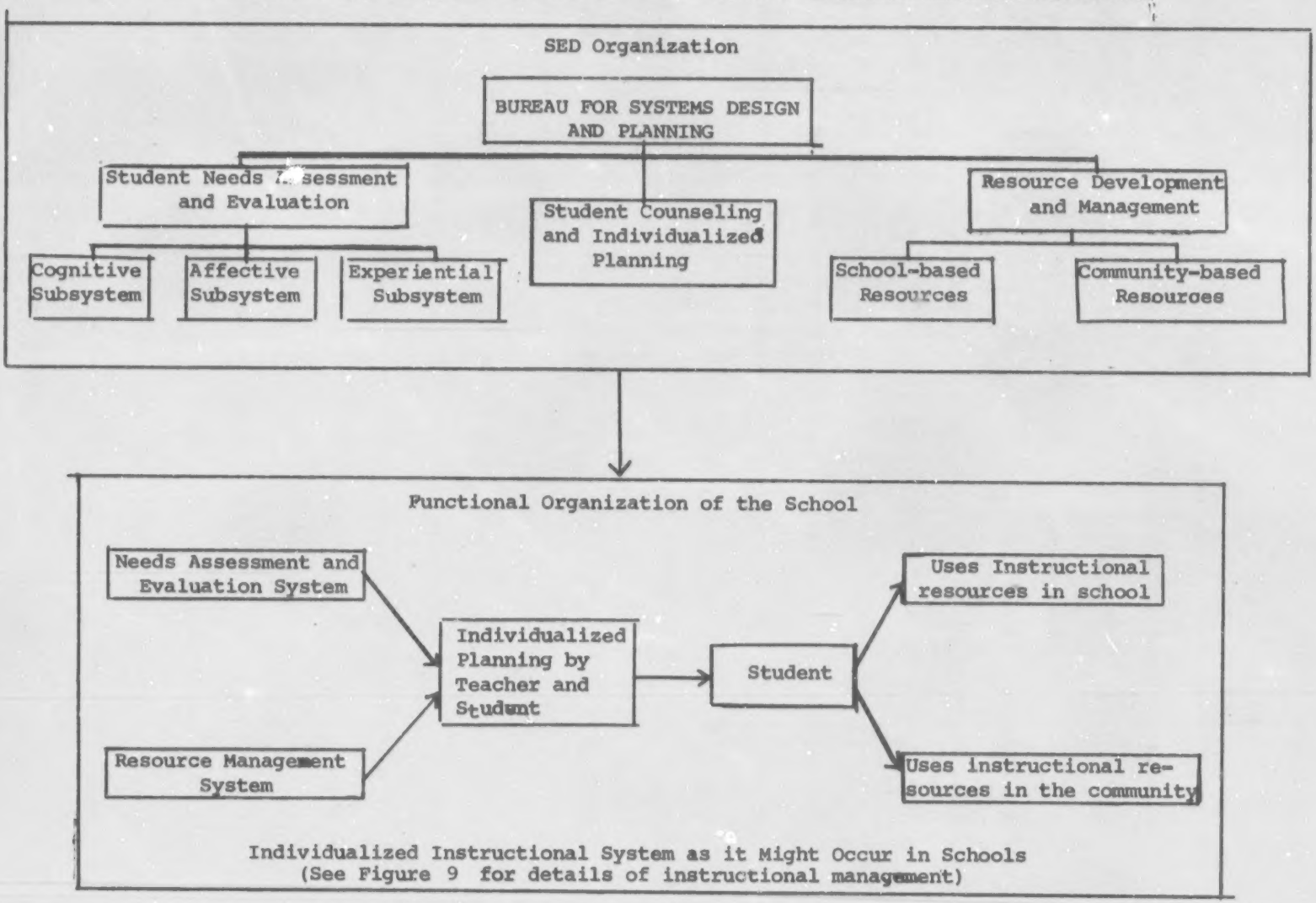
Under the current structure of education in New York State, the local school district is the basic unit responsible for delivery and management of educational services. For the most part, the SED is organized to correspond to the structure of schools and programs found in local districts. It establishes minimum standards and ensures compliance. As indicated in Section VII (pp. 101-107) the staff worker in SED is made conscious of the fact that he has no authority to direct change. He can only suggest practices which might improve effectiveness.

What changes might be expected in the policy and organization of SED if an individualized strategy is adopted for the delivery of educational services? The first effect would be to change its orientation from administration and regulation of existing systems to systems improvement and management. The suggestion of the SED staff worker no longer would be made in terms of what the local district should do, but would be implemented by providing a new capability in the instructional management system. The distinction is subtle perhaps, but important nonetheless.

Figure 11 illustrates a possible change in the organizational structure which might occur when the process of instructional management becomes the major concern. Again there is correspondence between the structure of the SED and the functions which local districts perform. In this case, the SED department is functionally related to the tasks of instructional management. A critical difference exists between this view of administration and the current limitations imposed on SED staff. All elements of the instructional management system are designed to support

Figure 11

A SED Administrative Structure Correlated to Functions of Individualized Instruction



Individualized Instructional System as it Might Occur in Schools
(See Figure 9 for details of instructional management)

the teacher-student interaction which is the basis of educational services. There is little need to establish minimum standards or write curriculum guides for teachers of English and social studies. The curriculum of these and other disciplines has already been structured within the resource management system and correlated to their appropriate developmental tasks. The critical decisions on what needs to be taught are made at the local level through a process of needs assessment and direct contact with each student.

What would now concern SED management is the ability of the system to serve students in terms of their individual needs. Constant improvement of the system suggests a bureau within SED for Systems Design and Planning. If needs assessment, instructional resources and individualized planning are the subsystems, then specialized staff in SED would be organized to work at improving them.

Needs Assessment and Student Evaluation

There seems to be no limit to what can be learned about expanding human potential. The needs assessment specialist would gather research on growth and development and use it to expand the capability of the system. Such specialists would hopefully work in an atmosphere where change and improvement is constantly expected, rather than one in which change is impossible without massive effort, legislation or a change in the authority structure. Similarly, concepts would be tested and validated by using student evaluation data which would be made available through the system. This division might include specialists in cognitive development and encompass academic disciplines and occupational skills. Simi-

larly, there would be specialists in affective development and valuing as well as specialists in the essentially unexplored area of human action, experience and decision making.

The needs assessment and student evaluation segment of the system does more to expand the management capability of the SED than any other segment. And it does so without impinging upon local autonomy. Not only has the system insured that local communities have the capability to perform the educational functions assigned to them, but the existence of a student oriented management system provides data on student and system performance which is not now available.

Individualized Planning

Specialists concerned with the subsystem of individualized planning would analyze techniques used in student counseling and the development of educational plans. A computerized system is indispensible to individualized instruction, but it cannot replace the teacher and the interpersonal relationships which dominate effective education. On the other hand, operations analysis of the counseling and planning process will probably reveal new roles for the computer. It seems reasonable to assume, that every function which can be transferred to a computer leads to further economies in education and frees the teacher to perform functions which only humans can perform.

Resource Development and Management

The division charged with managing instructional resources will probably encounter the largest workload. Two separate functions are involved.

On the one hand, there is the task of developing the resources, coordinating efforts with other developmental agencies, and providing for media. On the other hand, there are the tasks of cataloging resources into the resource management system, correlating them to developmental tasks and objectives, and monitoring their effective utilization. This could imply separate divisions for resource management and resource or media development. Only an operational analysis of the work involved would provide data for the organizational decisions to be made.

There is potentially an additional function to be performed by this division in the development and coordination of community resources. Swanson, King, Good and Nelson (1978) have recommended that the relationship between school districts and BOCES be conceived in terms of optimizing the community network of educational resources. Extending this idea to the instructional management system implies that resource management specialists will be concerned with both school-based and community-based educational resources. The major justification for including community resources in the instructional management system rests on two assumptions: (1) students need real-life experiences to accomplish integrated learning; and (2) schools are unable to provide such experiences because the artificiality of school environments limits efforts to simulation techniques and simulation encounters economic and technological limits. These matters are discussed in more detail in the next section.

E. Goals and Output Considerations

To be consistent with the system's perspective, one should discuss the outputs of the educational system. But the artificiality of the concept when applied to human systems presents many difficulties. Systems analysis is most effective when inputs, processes and outputs are standardized. It is still a valid technique in a system of individual differences and diverse processes of development, but the complexity which follows from such diversity leads to individualized processes and the instructional management system previously discussed. It was noted in the discussion of input, that students are most realistically viewed as the process of growth and development itself. Certainly they are not homogeneous raw materials. When individual differences at the input stage are combined with diverse paths of development which result from the interplay of cognitive, affective and experiential factors, the result is a greater range of diversity among students than existed when they entered the system.

Nevertheless, educational planners have perennially occupied themselves with specifying the goals, outcomes or outputs which are expected from the system. Some state that education cannot be effectively planned unless the goals are specified in advance. Mager (1962), who pioneered behavioral objectives, was fond of citing fables which ended with the lesson: "The moral of this fable is that if you're not sure where you're going, you're liable to end up someplace else - and not even know it," (p. vii). Sometimes this approach ignores the fact that education must often aim at exploration so that people can decide where they want to go.

Yet, there is an undeniable value in stating goals, and the search goes on for a valid and useful way of stating them. At times they are stated in terms of the ultimate ends of the developmental process, i.e., the student will become a mature, fully developed human being. This becomes expanded to include the ideal citizen, parent, worker and so forth. The result is a catalog of human ideals which not only conflict with each other, but are discouragingly unattainable for most people. The motto of the State University of New York is more realistic in this sense because it merely enjoins people to become all they are capable of becoming. Other goal statements select major developmental tasks within the cognitive, affective and experiential domains and set them forth as standards to be met by all students. As noted, advocates of criterion based objectives claim that educators should state their objectives in terms of the criterion by which accomplishment will be measured. Their major concern is precision in measurement and workability.

Discussion of developmental processes leads to the conclusion that realistic objectives should be input-based. A statement of the output is meaningful to system designers only when accompanied by a statement of the input. That is, measurement of accomplishment is the distance travelled from the point on the developmental continuum from which the student met the system to that point on the continuum from which he left it. The workability of this system of stating objectives depends on the existence of a workable needs assessment and student evaluation system such as outlined in the previous section.

However, even within the developmental or growth perspective, there is another problem in stating objectives. Why is the accomplishment of

an objective important? Does its value lie in the objective as an end in itself, or in the value of the objective for further growth. Dewey suggested that if education is to be identified with growth, then "only when development in a particular line conduces to continuing growth does it answer to the criterion of education as growing" (1938, p. 36). Saylor and Alexander echo this theme by stating, "The central goal of schooling, and therefore of the curriculum and its planning, is the most complete development educationally feasible and socially acceptable of the self-directing, continuing learner" (1974, p. 18). In Gardner's (1964)terms:

> The ultimate goal of the educational system is to shift to the individual the burden of pursuing his own education. This will not be a widely shared pursuit until we get over our odd conviction that education is what goes on in school buildings and nowhere else. Not only does education continue when schooling ends, but it is not confined to what may be studied in adult education courses. The world is an incomparable classroom, and life is a memorable teacher for those who aren't afraid of her (p. 12).

Taken together, these comments suggest that the criterion by which educational outcomes should be judged is their value for further growth characterized by the capability for self-directed, continuous learning.

Such a criterion makes the evaluation of educational outcomes relative to a future yet to be realized. It demands a prediction of future returns, perhaps in the same way an economist would predict the return on investment in human capital. It is not unworkable because of the difficulties in prediction. Neither does it exclude objectives which have limited future growth potential. Driver education, for example, may not lead directly to future learning, but it makes competent drivers and preserves lives. Such accomplishments as ends in themselves also provide a

return on educational investment. But if one is concerned with the allocation of scarce educational resources, which is particularly important when education is conceived in terms of standardized programs, then the difference between growth objectives and objectives as ends in themselves provides a useful means of establishing priorities. Growth objectives aim at achieving independence of the learner from the schooling process. It is conceivable that without their inclusion in the system, the learner will remain dependent on the social system rather than upon his own ability.

It is difficult to apply criteria which are based on prediction of future returns, but the concept bridges the gap between the individual development perspective and the societal benefits to be derived from education. The Commission on the Reorganization of Secondary Education (1918) stated the issue well:

> It is the ideal of democracy that the individual and society may find fulfillment each in the other. . . There is a concern that each individual shall have an opportunity to realize his maximum potential as a person. There is a parallel concern that the society of all men shall consequently be enhanced. These concerns are mutually supportive and basic to the goals of American education.

How does one measure the outcomes of schooling in terms of their social implications? More difficult still, what outcomes can be attributed to schooling independently of the society around it? Does the school have sufficient control over educational processes so that it can claim credit for its student's achievements? The block labelled "Outputs" in Figure 10 has been left blank. If the reader wishes, he may fill in this block with the many statements of goals and objectives which have been developed for education over the years. He can also cite statistics on literacy and

the accomplishments of the school in teaching mathematics and social sciences. But to be consistent with the reality principle, he should also fill in the block with statistics which show the crime rate, unemployment, broken homes, cases of child abuse, teenage drug abuse, and teenage alcoholism. In short, realism would suggest that educators develop a social perspective similar to that attempted by the Department of Health, Education and Welfare (1969).

In 1966, President Johnson directed the Department of Health, Education and Welfare:

> to develop the necessary social statistics and indicators to supplement those prepared by the Bureau of Labor Statistics and the Council of Economic Advisors. With these yardsticks we can better measure the distance we have come and plan for the way ahead. (U.S. Dept. of HEW, 1969, p. 3).

In 1969, the Department sbumitted a short report entitled, Toward A Social Report which included discussions and statistics on "health and illness," "social mobility," "our physical environment," "income and poverty," "public order and safety," "learning, science and art," and "participation and alienation."

Advocating that educators expand their view to include the social consequence of existing educative patterns does not imply a simplistic approach to accountability. There is a current tendency to hold schools accountable for failure to attain objectives, when the outcomes are determined by factors beyond the school's control. One might as well hold doctors responsible for the number of people who become sick, or priests and ministers accountable for the number of sins committed in their parish. What is being advocated is a sufficiently broad planning perspective so

that the educational planner deals with the reality of growth and development in society rather than with preconceived notions of what might be attained by schools.

F. Community Based Education

The school never has, and probably never will be able to deal with the totality of private and social experiences which contribute to individual growth and development. Learning takes place outside of schools, and society has not yet reached the stage where it calls upon schools to address the total problem of growth and development. On the other hand, changes in our society have disrupted the traditional division of educative responsibility between schools and other social agencies. In attempting to deal with these new tasks, educators are increasingly aware that they can be addressed only within the total framework of growth and development. In other words, the fact that schools may never be called upon to assume total responsibility for growth and development, does not invalidate the need to view the functions of education within that context.

Whatever responsibilities the school assumes, they cannot be carried out independently of how the individual develops in the context of his social environment. Ultimately, the education of the individual is a responsibility that is shared by the school, the individual and the society within which both operate. Optimum results are achieved only when all work in consort. When the school assumes responsibility for tasks which social trends will not support, the effectiveness of the school is doomed in advance. Scholarship with its reliance on books, reading and writing is perverted by mass media and the hours which children spend in front of the television sets. Emphasis on social participation is blocked by a society which no longer provides opportunities through which youth can play a meaningful role. Emphasis on preserving traditional values is

made empty by a society which demonstrates that those values are no longer cherished and no longer govern the actions of people in our culture. These are facts which young people are quicker to grasp than planners of educational systems.

Youth are increasingly aware of the isolation of schools from the reality of social change, and have developed attitudinal and behavioral responses to the situation which are quite different from those which educational planners anticipate. The problems of school dropouts, vandalism and juvenille delinquency are increasing; but a more subtle and serious problem lies in what some observers have called the "unstudied" curriculum (Overly, 1970), or "hidden" curriculum (Saylor and Alexander, 1974). While the words and concepts taught today may be the same as those taught to previous generations, their message is quite different in the context of the new society. Knowledge takes on personal meaning when it is confirmed by experience and given importance in one's value system. This is the message of integrated learning. One might say that vandalism, alienation and the "hidden" curriculum reflects the failure of modern education to provide for that integration.

The function of educational planning appears to be quite different in a changing society than it is in a stable society which can specify clearly what it expects its schools to accomplish. When the role of the schools was consistent with the social process, the educational planner could concern himself only with what went on in the school. In a changing and diverse society, the educational planner may find it necessary to change his perspective as to how people grow and develop in the community at large. In this latter context, the planner would be a specialist

who is capable of interpreting the changes which are occuring in society's total educational mix and of recommending changes in the role of the school and its interaction with the rest of the community.

The Community is the School

In Figure 10, the issue of coordinating the work of the school with that of the community is indicated by the block labeled "Community Based Education". The ultimate consequence of coordinating school and community efforts in education is to view the community itself as the basic educational system. In this perspective, the community is the school. What was the school is now the center for coordinating educational activities for citizens of all ages. The necessity for such a reconceptualization can be justified on both educational and economic ground.

In Section VIII it was established that the sparsity of population which prevails in most areas of the state limits the success of attempts to consolidate school districts and achieve economies of scale. A strategy of individualized instruction was proposed which would permit a wide variety of courses to be offered in any community regardless of size. But these programs would be essentially cognitive in nature for they would depend on the use of information processing technology. How large would a school have to be in order to provide facilities for experience in any of the occupational areas which a student might choose? How large would a school have to be in order to provide real life experiences? The answer is too large. If the criterion of realism in learning is also imposed, it is apparent that schools can only simulate experiences within its walls. On the other hand, most communities do contain the resources

necessary to support integrated learning. The task is to coordinate these resources into an overall community plan for education. Unfortunately, while the growth and development of people requires an integrated approach, society has pursued a path of specialization and fragmentation. Its response to a problem is to create a program. For every program, create an agency or department to administer it. The result is a plethora of agencies to deal with special problems. Mental health agencies deal with the emotionally disturbed. Social welfare agencies deal with economic and family problems. Law enforcement agencies deal with juvenille delinquency and crime. The list goes on endlessly.

The difficulty does not lie with specialization itself, for there is a benefit to be derived from referring special problems to specialists. The difficulty lies in finding a means to coordinate the fragments after division of responsibility has taken place. This is a problem common to every complex, modern organization. Work is analyzed, common tasks are grouped together, and job descriptions are written to define the work to be done by each specialist and/or agency. The process works admirably as far as it goes. Unfortunately, a rigidity decends on such structures, and the uncompleted task of management is to find a vehicle for maintaining perspective on the overall task to be performed by the system and for coordinating the now fragmented units into a flexible system for response to change and diversity.

The career education project in Richmond, California (discussed in Section VI), was funded because the federal government recognized the need to develop new vehicles for cooperation among community agencies. The

description of the rationale for that project, which was provided by Carr, Agnello and Feiler (1976) deserves repeating:

> . . . to demonstrate that public agencies can deliver services more effectively and more efficiently by integrating related (or allied) services. City and county governments, like school districts are caught in a squeeze between the increasing demand for human services from local citizens and the decreasing availability of tax dollars to pay for them. Elected officials then have to choose from the alternatives of (1) cutting back on services, (2) raising more tax dollars, (3) finding ways to deliver services more efficiently. One way that has been proposed to deliver services more efficiently is the coordination of existing services across all agencies offering those services (p. 14).

The proposal to reconceptualize education as a total community process and to view the community as a network of educational resources goes beyond the rationale of the Richmond project. However, to include community resources as well as school-based resources in the instructional management system described in Section VIII is a logical and conceptually simple step. Types of community resources that could be included are indicated by the Research for Better School's project in Philadelphia (see Section VI). Other possibilities were discussed on pp. 130-131.

Failure to view education in the context of community processes not only isolates schools from reality, but leads to quite predictable consequences. Other agencies will be created to deal with problems left untouched by the schools. The growth of CETA programs, for example, has been regarded by some vocational educators as competition to their own programs and by others as an opportunity for vocational education to participate in a broader community effort toward meeting common goals.

However, it is relevant to ask why a separate CETA program was necessary in the first place? Why should it be necessary to establish a separate agency to contract with private vocational schools for training of young people from ages 18 to 26 and beyond when the educational system operates extensive vocational programs? Why is it necessary to create a separate agency to find apprenticeship and on-the-job training opportunities with employers when the educational system employs cooperative work experience coordinators for its vocational programs? And why, when the CETA agency surveys community resources for vocational training, does it make only marginal use of existing public school facilities?

The answer is obvious, if somewhat simplistically stated. The current systems of education and social services operate with a separate program mentality both within institutions and among institutions. There is no provision for flexibility and the management of diversity. Equally important, CETA was established because the programs of traditional vocational education had failed people during their years of schooling and were rejected by them afterward. Few actions could be more important than to refocus education and community services from a program and separate agency approach to an individualized, community based perspective.

G. The Role of Vocational Education

What begun as an analysis of vocational education ended with a proposal for redesign of an entire educational system. Some readers will find this inconsistent, if not presumptuous. But in essence, this analysis has ended by affirming what the Regents had already concluded in Position Paper #11. Whether one uses the rubric of vocational education, occupational education, or career education, the preparation of people for meaningful work in society must be conceptualized in the context of a totally redesigned educational system. The evidence has been slowly accumulating. The 1968 report of the Advisory Council on Vocational Education, the HEW report on Work in America, Leighbody's attack on separatism in vocational education; all point to the increasingly complex list of variables which impinge on the process of education. Complex situations cannot always be solved by extracting those elements which can be standardized and met with a program response. If human beings reflect differences, then systems are needed which are flexible and can manage diversity and complexity.

The gap remains large between what evidence suggests needs to be done, and what practice indicates is being done. It is difficult for planners to incorporate alternatives which might not be operational for twenty years. But if action is not taken now, in twenty years, the situation may be worse.

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